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NATURAL HISTORY

OF

QUADRUPEDS.

BY

FREDERIC SHOBERL.

WITH ILLUSTRATIONS BY

THOMAS LANDSEER;

THE SUBJECTS ON STEEL ETCHED BY HIMSELF.

PART I.

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PREFACE.

The little work here presented to the reader is designed to promote among the young a taste for Natural History, which has been so eminently encouraged by the formation of that magnificent collection of animals which occupies the gardens of the Zoological Society. There, and in a later establishment of the same nature, the inhabitants of the British metropolis possess facilities, never before offered in this country, for studying from living specimens the conformation, habits, manners, and other peculiarities of many of the most stupendous and curious members of the Animal Kingdom.

Natural History is a study by itself—a delightful study—a study which, for general information, requires neither extraordinary powers of understanding nor profound thought; but merely eyes to see and a heart to feel. It may be equally relished by persons of all ages, of all capacities, of all degrees of intellectual cultivation. None can rise from it without being deeply impressed with the wisdom, the providence, and the bounty of that Maker, who has so wonderfully adapted all his creaturcs to the circumstances in which they are placed; neither can any be so obdurate as not to derive from it an increascd kindliness and sympathy towards fellow-beings, which, though denied the inestimable gift of reason, are manifestly the work of the same Almighty hand as himself.

All, howcver, cannot enjoy the advantages of ocular examination. To many it is forbidden by distance and other causes. For

such the best compensation is furnished by books containing spirited and faithful delineations and accurate descriptions. To this merit the work now before the reader lays claim. Not aspiring to the dignity of a complete system of the science, it professes only to exhibit a selection of the more remarkable individuals of the quadruped tribes. The illustrations are from drawings, taken almost all of them from living specimens, by an artist justly celebrated for the spirit, vigour, and fidelity of his animal portraitures: and it may be confidently affirmed that, whether considered as correct representations of the subjects, or as works of art, they have never been equalled in any publication specially appropriated to the young. In the descriptive portion the compiler has been solicitous to embody all such authentic information as can interest the general reader, divested of purely scientific details, and sifted from those fables,

which, originating with the ancient writers on natural history, have been handed down from age to age, and faithfully retained even by recent authors. It has been his object to exhibit as comprehensive a view as his limits would permit of the structure, habits, and manners of the animals selected for description, and to enliven the work with anecdotes illustrative of the character and disposition of each, both in a state of nature and of domestication. He will add that, filled with honourable emulation of the superior excellences of the eminent artist with whose labours his have had the good fortune to be thus associated, he ventures to hope that his part of the task has been so performed as to prove not only pleasing, instructive, and useful to the young, but interesting even to persons of maturer understanding.

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TO THE BINDER.

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Zebra

Ibex

As the Act directs by Harris & Poole, Jan. 1st 1830

NATURAL HISTORY

OF

QUADRUPEDS.

THE ZEBRA.

THE Zebra, the most beautiful animal of the horse tribe, nearly resembles the mule in stature, being smaller than the horse, and larger than the ass. In form it is much more elegant than the latter, its head and ears being well shaped, and of moderate size. Of all known quadrupeds it is one of the most fancifully adorned. The ground of its coat is either a pure white or cream colour, sometimes having a slight shade of buff, or a pale rusty

tinge, adorned on every part with stripes of a black or blackish brown colour, laid on with such regularity as to give the animal the appearance of being decorated with dark ribands. These stripes run in a transverse direction on the body and limbs, and longitudinally down the face. The tail, of moderate length, round, and rather slender, is also marked with blackish bars, and terminated by a pretty thick tuft of a blackish or brown colour.

This animal is not found in any quarter of the globe besides Africa, and only in the southern portion of that continent, from Abyssinia to the Cape of Good Hope, and from Mozambique to Congo. It appears that there are two species of the zebra, one of which, called *dauw* by the Hottentots, is rarely seen but among the mountains, while the other frequents the plains. The latter is said to be the more numerous of the two, and to be distinguished by the want of black bands upon

its legs. Mr. Burchell describes these as the most beautifully marked animals he had ever seen. "Their clean, sleek limbs," says he, "glittered in the sun; and the brightness and regularity of their striped coat presented a picture of extraordinary beauty, in which probably they are not surpassed by any animal that we are acquainted with. It is indeed equalled in this particular by the dauw, whose stripes are more regular and better defined, but do not offer to the eye so lively a colouring."

The zebra feeds in herds, subsisting entirely on vegetables. It is difficult to take these animals, on account of their vigilance and their extraordinary swiftness. They are frequently found in company with ostriches. It is supposed that the wary disposition of these birds, and their great acuteness of sight, are serviceable to their four-footed companions, in warning them of the approach of danger.

This beautiful animal is of so untractable a nature, that though the Dutch, when in possession of the Cape colony, had recourse to all possible means to tame it, yet it has never been rendered serviceable to man. One of them, indeed, which was long kept in the royal menagerie of France, was broken for the saddle, but his natural wildness was never conquered, for two men were obliged to hold the bridle, while a third rode him. Another, which belonged to the collection at Exeter Change, London, manifested a much gentler disposition, and was so tame that he would suffer a child six years old to sit quietly on his back, without any expression of displeasure. He was familiar even with strangers, and received with evident satisfaction the same kind of caresses that are usually bestowed upon a horse. This beautiful animal was burned to death by the mischievous act of a monkey, which set fire to the straw on which

he lay. A third, kept many years since at Kew, was so fierce and savage that no one durst venture to approach, excepting the person who was accustomed to feed it, and who alone could mount on its back.

The Zoological Society possesses three species of the Zebra family.

THE ZEBU.

The most common of the Indian breeds of the Bos genus is the zebu, a humped variety, the smallest specimen of which are not bigger than a full-grown mastiff, while others are found almost as large as the finest English cow. This animal has been considered by some naturalists as not a distinct species, but only a degenerate kind of bison, diminished in size by scantiness of food, which has a decided effect on the bulk of all horned cattle.

The zebu, like the bison, is extremely gentle when tamed, and very useful to mankind, both as affording food, and serving for a beast of draught and burden. These animals are employed in pairs to draw a two-wheeled vehicle called *gadee,* which holds but one person, and is used by the wealthy Hindoos. When destined for this purpose, their horns, when young, are bent so as to grow nearly upright, bending backwards a little towards the top. They are often covered with rich carpets; adorned with rings and chains of gold or other metal; and their legs and chests painted with various colours. The women of the lower classes in India frequently travel on bullocks, which they ride astride upon a very large saddle: the animals have bells hung round their necks, and are guided by means of a cord passed through the nostrils.

There are specimens of the zebu in the Zoological Gardens.

BRAHMIN BULL.

THE BRAHMIN BULL.

The Brahmin bull is covered, like most of the animals of the Bos genus in eastern climes, with a sort of fleece, composed of silky hair and short downy wool intermixed. The colour of this fleece is of a delicately tinted bluish gray on the back, flanks, and sides; and, excepting that it is perhaps of finer quality, it much resembles in every respect the chinchilli fur. This beautiful member of the Taurine family is distinguished by a large hump on the shoulders, long pendulous ears, finely turned legs, and dark tufted tail. The face, from the forehead to the base of the muzzle, the lower part of the dewlap and belly, and the inside of the thighs, are of a yellowish white, occasionally varied with a pink tinge. The horns, short, round, and

polished, rise at some distance from each other. The ears are very long, gray externally, and pink within. The position of the eyes, very little below the bases of the horns, while it diminishes the apparent altitude of the forehead, communicates a broad and benevolent expression to the face; and their soft and placid character, which may rival the far-famed beauty of the gazelle's, completes an aspect of extraordinary gentleness. The muzzle, delicately formed, is of a jet black colour, and the mouth small.

Mr. Hamilton, in his excellent description of Hindostan, informs us that "the Brahmin or sacred bull of the Hindoos, rambles about the country without interruption; he is caressed and pampered by the people, to feed him being deemed a meritorious act of religion. In many parts of Bengal an absurd custom prevails, which frequently occasions much damage to the farmers. When a man

dies, and the ceremony in commemoration of ancestors has been performed, a young bull is consecrated with much solemnity to Siva, and married to four young cows. He is then turned loose, after having been marked, and may go where he pleases: it is not lawful to beat him, even though he may be devouring a valuable crop, or have entered a shop and be eating the grain exposed there for sale. The sufferers shout and make a noise to drive him away: but he soon despises this vociferation, and eats heartily until he is satisfied. These consecrated bulls become, in consequence of these free quarters, very fat, and are extremely fine animals to look at, but very destructive. The cows are given away to Brahmins, and he seldom sees them again. The last two rajahs of Dinagepoor, among other expedients which they devised with great success to ruin themselves, consecrated in this manner about two thousand cows. As

no person presumed to molest the sacred animals, the vicinity soon became desolate, and the magistrate was at last compelled to sell them all, with the exception of one hundred, which were left to the widow to sooth her misfortune."

Miss Roberts, in a short description of Benares, also remarks on the inconvenience suffered from these privileged beasts in that city, the narrow streets of which are infested by sacred animals. "Of these the Brahmin bulls form a nuisance of no small magnitude, more particularly to the Moosulmaun portion of the inhabitants, who do not hold them, like the Hindoos, in deferential reverence. Allowed to thrust their devouring jaws into the baskets where grain and vegetables are exposed for sale in the bazaars, they grow to an immense size, and, over-fed and growing vicious with age, become extremely dangerous. The passenger who, blocked in some narrow entry, is

BISON.

obliged to wait the pleasure of one of these petted animals before he can proceed on his way, may esteem himself lucky if he escapes without personal injury."

The Brahmin bull is about as large as a moderate-sized English bull. It exhales a very fragrant odour, totally free from that musky scent which is so common to the bovine races of hot as well as of cold countries.

The Zoological Garden possesses a beautiful specimen of this animal.

THE BISON.

The bonassus, or bison, is supposed by some writers to be the Urus of Cæsar, and the Aurochs of the Germans. This race still subsists in some remote portions of Europe, in Lithuania for instance: but its domicile embraces the greater part of the rest of the

world. It resides in the southern forests of Siberia, in the mountain regions of the Carpathian and Caucasian ranges, and probably in the temperate region of Africa, comprehending the high lands of Numidia.

The bison abounds in the unsettled parts of the American continent. Here, when full grown, it measures six feet to the top of the shoulder, and in length, from the extremity of the tail to that of the nose, upwards of ten feet. The head, broad across the forehead, tapers considerably to the lip: the horns are small but strong, set very wide, and slightly curved, internally at the base, and externally at the tips, like those of some of the antelope tribes. Over the shoulders, the line of the spine rises into an elevated ridge, which, clothed with a profusion of dark hair, covering a subsidiary fleece of short wool, seems to form a vast hunch. The apparent size of this excrescence is increased by the way in which

the bison carries its head, holding it low and outstretched in the manner of some other fierce and vicious quadrupeds. The eye is quite round and moveable, and on the slightest excitement assumes an enlarged and inflamed appearance. From the shoulders and thighs of the fore limbs, from under the jaw and throat, and from the head generally, with the exception of the snout of the male animal, hangs an immense quantity of long mixed hair and wool, measuring in winter more than a foot in length. The internal or woolly portion of this coat is of a grayish white; the external of a dirty brown, deepening on the throat, breast, and beard, as it may be called, where it is most abundant. The lower extremities, back, flanks, and croup, are clothed with shorter hair, but of a deeper tint. The legs are slender in proportion to the bulk of the carcase, but muscular and short.

The bison is extremely wild and fierce, and

the pursuit of him is very dangerous, except in forests where the trees are large enough to skreen the hunters, who conceal themselves behind them. It is hunted for the flesh, which is esteemed excellent food. The general method of taking this animal is to dig deep pits, which are covered with grass. The hunters, posting themselves on one side of this pit, while the bison is on the other, tempt the enraged animal to pursue them, when he falls into the snare, and is soon overpowered.

THE BUFFALO.

The buffalo, a large animal of the Bos tribe, bears a striking general resemblance to the bull, but he is more clumsy in figure, low in proportion to his bulk, and supported by strong and solid limbs. The head, which he carries nearer to the ground, is smaller than

Buffalo

Many-horned Sheep. Guinea Sheep.

London. Pub.d as the Act directs by J. Harris, St. Paul's Church Y.d Dec.r

in our domestic cattle, and his horns are very strong, wide, and spreading. The species is extensively diffused over the fertile plains of the tropical regions, avoiding mountains and even hills, and preferring the coarse plants growing in forests or in marshy situations to those of the open country. When oppressed by heat they betake themselves to the water, swimming well, and crossing the broadest rivers without hesitation. Bishop Heber, in his voyage up the Ganges, when near Putwa, observed a large herd of buffaloes in the water, above the surface of which only their horns and noses were visible: but at sunset they repaired to the shore, sleek, black, and glossy, too shy to suffer any one to approach them, but showing no degree of fierceness.

In Africa and India numerous herds of buffaloes frequent the vast savannahs, which are rarely visited by man, whom they seldom venture to attack unless they are first exas-

perated. The sight of blood is said to rouse their fury to the highest pitch. For this reason the negro hunters ascend the loftiest trees, and fire upon the buffaloes as they pass beneath. Embowered in the foliage, they wait patiently till all their victims are dead, fearful lest some of the wounded might have strength enough left to spring up and revenge the slaughter of their companions.

The Cape buffalo, called by the Hottentots *quaraho,* is a very ferocious animal. Its horns are eight or ten inches broad at the base, bending down on each side of the head, then turning up at the points, and measuring five feet along the curves from tip to tip. Its hide is black, and almost naked, especially in old animals. This buffalo lives in herds or small families, in the brushwood and open forests of Caffraria. The surest way of escaping this fierce and vindictive animal when attacked by him is, if possible, to ride up a

hill, as the great bulk of his body prevents his running with the swiftness of a horse; though it is said that in going down hill he can run faster than the latter. According to Sparrman, he is not content with merely killing the person whom he attacks, but stands over him for some time, trampling him with his hoofs and heels, crushing him with his knees, tearing and mangling his whole body, and rasping off the skin with his rough tongue.

Professor Thunberg describes more than one encounter with these formidable animals while travelling in Caffraria. Two horses were destroyed on one of these occasions, the riders saving themselves by climbing trees, and the Professor himself being obliged to resort to the same expedient. At another time the traveller and his party, having come upon a large herd grazing in a plain, wounded an old buffalo which ran furiously towards

them. From the situation of the eyes and horns of these animals, they can scarcely see excepting straightforward, so that in the open plain if a man who is pursued darts out of the direct course, and throws himself flat on the ground, the beast will gallop forward to some distance before he misses him. To this contrivance the party had recourse, and the animal passed close by them, and fell before he discovered his error. Such was his strength that, though a ball had entered his chest and penetrated through the greatest part of his body, he ran at full speed several hundred paces before he fell.

The buffalo is now nearly extirpated throughout every part of the Cape colony, except in the extensive forests or jungles in the eastern districts, where he still finds a precarious shelter. In this quarter the following incident illustrative of the rough sports of buffalo-hunting occurred; it was related to Mr. Pringle,

by a Dutch African farmer, who had witnessed the scene about fifteen years before.

A party of boors had gone out to hunt a troop of buffaloes, which were grazing in a piece of marshy ground, interspersed with groves of yellow wood and mimosa trees, on the very spot where the village of Somerset now stands. As they could not conveniently get within shot of the game without crossing part of the marsh, which did not afford a safe passage for horses, they agreed to leave them in charge of their Hottentot servants, and to advance on foot, thinking that if any of the buffaloes should turn upon them, it would be easy to escape by retreating across the quagmire, which, though passable for man, would not support the weight of a heavy quadruped. Accordingly they advanced, under cover of the bushes, and at the first volley brought down three of the fattest of the herd, and wounded the great bull leader so severely that he drop-

ped on his knees bellowing with pain. Supposing him to be mortally wounded, the foremost of the hunters issued from his covert, beginning to reload his musket as he advanced, in order to give him a finishing shot. No sooner, however, did the infuriated animal see his foe in front of him, than he sprang up and rushed headlong upon him. The man, throwing down his empty gun, fled towards the quagmire: but the savage beast was so close upon him that he despaired of eseaping in that direetion, and turning suddenly round a elump of eopsewood, began to climb an old mimosa-tree beside it. The raging beast was too quick for him. Bounding forward with a frightful roar, he caught the unfortunate man with his horns, when he had nearly escaped beyond his reaeh, and tossed him in the air with such force that he fell dreadfully mangled into a lofty eleft in the tree. The buffalo then ran once or twice round the tree, appa-

rently looking for the man, till, weakened by the loss of blood, he again sank on his knees. The rest of the party, recovering from their confusion, then came up and dispatched him, but too late to save their comrade, who was hanging in the tree quite dead.

The buffalo, though so wild and formidable in a state of nature, is very easily tamed. He is patient and persevering, and from his great strength is found extremely serviceable for draught. In ploughing he will perform the work of two horses. He is domesticated in some parts of Europe, as in Italy and Hungary, where he is managed by means of a ring passed through the cartilage of the nose, and in the eastern countries with a rope. D'Obsonville observes that the large herds of buffaloes crossing morning and evening the rivers Tigris and Euphrates afford a singular sight. They proceed closely wedged together; the herdsman riding on one of them, sometimes

couching down, and at others standing upright, and, if any of those on the outside straggle or lag behind, stepping lightly from back to back to drive them along.

Whether wild or tame these animals in all countries manifest the strongest antipathy to red. A general officer still living, being employed when a young man to survey some land in Hungary, happened to use a small plain table covered on the back with red morocco. In walking from one station to another, he sometimes carried it with the paper against his breast and the morocco in front. All at once he perceived at a distance a herd of grazing buffaloes throwing out signs of defiance, and advancing in full gallop towards him, with their tails erect, and all the tokens of extreme irritation. Not suspecting the cause, he stood still, and dropped his hand, when the buffaloes immediately halted, and looked about as if confounded. He proceeded,

and again uneonseiously raised the table so as to display the red eolour. The buffaloes instantly hastened towards him with the greatest impetuosity. At length, guessing the cause of their agitation, he turned the obnoxious eolour towards his breast, and was then allowed to proceed without molestation.

Some years ago a eolumn of troops marching to Patna in India, met with a herd of these creatures. As soon as they perceived the scarlet uniform of the soldiers they manifested the usual signs of irritation and galloped off: then, suddenly wheeling round, they advaneed in a body, as if with the intention of eharging, and their horns overtopping their heads, gave them the appearanee of being mounted by some hostile foree. Part of the eolumn in eonsequence halted and formed; when the buffaloes, startled by the sudden glistening of the arms, wheeled round and dashed tumultuously under cover.

Though the buffalo in a domestic state is not remarkable for docility or attachment to his keeper, still the following anecdote seems to argue that he is not unsusceptible of such a feeling: Two bibaries, or carriers, were driving a string of these animals, laden with grain and merchandize, within a few miles of Chittrah, when one of them, being in the rear, was seized by a tiger. A gullah, or herdsman, who was tending a number of buffaloes while grazing, hastened to his assistanee, and with a sword severely eut the tiger, which immediately dropped the bibarie and seized the assailant. The buffaloes rushed upon the tiger and reseued the herdsman: they then tossed the aggressor from one to another with their horns, and soon killed him. Both the wounded men were carricd to the house of Mr. D. Johnson, on whose authority this aneedote is given: the bibarie reeovered, but the

herdsman was so severely wounded that he died.

At any rate this circumstance proves a strong antipathy and great courage in the buffalo. It is well known indeed that neither the lion nor the tiger like to attack these powerful animals, for which reason the Indian herdsmen are not afraid to pass the night in jungles frequented by those depredators when seated on the back of a favourite buffalo.

The hide of the buffalo is so hard that a musket-ball will scarcely penetrate it unless the lead be mixed with tin. For this reason it is highly valued as a material for the shields used by the savage inhabitants of Southern Africa, and for harness by the colonists.

THE MANY-HORNED SHEEP.

Every reader must be so familiar with the figure of the sheep that it is unneeessary to enter into a formal deseription of this family of the peeora. In its domestieated state the sheep appears to be so far removed from a state of nature as to render it diffieult to point out the original stoek: but naturalists in general are of opinion that it is descended from the argali or wild sheep, the musmon, or mouflon, of Buffon.

The variety of the speeies of this animal is so great that scareely any two countries produce sheep of the same kind. There is found a manifest differenee in all, either in the eovering, the shape, the size, or the horns. Thus the sheep of Ieeland, Russia, and other cold regions of the north, though they re-

semble ours in form, differ from them in the number of horns, some having four, others eight.

The many-horned sheep, though large and formidable in appearance, is gentle, mild, and timid, like the rest of its kind. Its wool, of a dark-brown colour, is long, smooth, and hairy; and beneath the external coat it has an inner covering, so fine, short, and soft, as to resemble fur rather than wool.

THE GUINEA SHEEP.

The Guinea sheep is found in almost all the tropical countries both of Africa and Asia. It is of large size, with a rough hairy skin, long curling horns, and long pendulous ears: it has a long mane, reaching below the neck, and under the chin a kind of dewlap.

The sheep of this race are stronger, larger,

and fleeter than the common breed of Europe, and therefore better adapted to a precarious life; but, like the rest of this family, they seem to rely wholly on man for support.

THE GOAT.

The goat has in many respects a visible affinity to the sheep, but the gentle disposition and the services rendered to man by the latter cause the goat to be held in less estimation, and its domestication and improvement to be considered as an object less worthy of attention.

The goat is more hardy than the sheep, and better adapted to a state of liberty. It is stronger, swifter, and more playful; not easily confined to a flock, it delights to roam at large, and to choose its own pasture; and it

Common Goat.
Syrian Goat.
Cashmere Goat.
Ibex.
Gazelle.

manifests a stronger inclination for liberty than for delicacy of food. Hence it is peculiarly valuable to the inhabitants of wild and mountainous countries, where it finds an ample supply of the spontaneous productions of nature in situations inaccessible to most other quadrupeds. It climbs the loftiest rocks and stands secure on the brink of the most abrupt precipices. In mountainous countries goats may be seen walking along the narrowest ledges: and, if two meet in a place where neither can turn, it is said that one will lie down while the other jumps over his back. In this manner two of these stragglers were observed by a number of spectators to pass each other upon the rampart of the citadel of Plymouth, which overhangs the beach. Their feet are admirably adapted by nature to such situations, the hoof being hollowed underneath, and having sharp edges resem-

bling the concavity of a spoon, which preserves them from sliding off the craggy rocks that they are fond of frequenting.

The goat bears well either a hot or a cold climate. In many of the mountainous parts of Europe, goats constitute the principal wealth of the inhabitants, and supply them with many of the necessaries and conveniences of life. The skins serve them for beds; and they live upon the milk without bread, and make from it butter and cheese. The milk is of an agreeable taste, highly nutritive and medicinal, especially in consumptive cases. The flesh of the kid is esteemed a delicacy little inferior to venison. Pontoppidan relates that in his time, eight hundred thousand raw goat-skins were annually exported from Bergen, in Norway. Great numbers are employed in the manufacture of gloves; and those of the kid are held in particular request for that purpose. No other kind of leather

is susceptible of so fine a dye, and hence it was formerly used for hangings in the houses of the wealthy, decorated with flowers and other ornaments wrought in gold. Hence it appears that the goat, though superseded in the British islands by sheep, is nevertheless a very valuable quadruped.

Being extremely sensible of attention and grateful for kindness, the goat soon becomes attached to man, with whom indeed it seems naturally disposed to familiarize itself. Buffon relates that an English ship, having entered a harbour in the island of Bonavista, two negroes went on board and offered the captain as many goats as he chose to carry away. He expressed his surprise at the offer, when the negroes informed him that there were only twelve persons on the island, and that the goats had multiplied to such a degree as to be extremely troublesome; for, instead of being difficult to catch, they followed

them about with an unpleasant pertinacity like dogs.

A similar circumstance occurred to the editors of the English translation of Cuvier's Animal Kingdom, when landing from a boat on a precipitous and woody bank on the shore of the lake of Thun, in Switzerland, which is much frequented by these animals that are seldom removed by their owners, a number of goats and kids came bleating towards them and went directly into the boat. Such was their familiarity, that, though they wanted neither water, food, nor shelter, and in that wild country they could not be accustomed to the sight of human beings, it was a difficult task to drive them away.

Sonnini, in his edition of Buffon's Natural History, has recorded a curious instance of the readiness with which the she-goat will permit herself to be sucked by animals of a different kind, and even of much larger size

than herself. He informs us that in 1780 he saw a foal which had lost its dam thus nourished by a goat, which was placed on a barrel, that the foal might suck more conveniently. The foal followed its nurse to pasture, as if she had been its mother, and was attended with the greatest care by the goat, which would call it back by her bleating whenever it wandered to any distance from her.

The varieties of the goat are almost as numerous as those of the sheep. They differ in regard to colour, hair, horns, or ears; but these are only accidental diversities, produced by climate and food, which sometimes give to one and the same animal an apparent difference in form, though the internal structure does not vary. Thus the Syrian goat, which is rather larger than ours, has broad ears of such length as in some individuals to hang down nearly to the ground, while the horns are not above two inches and a half long. It

is said that the former of these appendages are sometimes so troublesome that the owners cut them off to enable the animal to feed with greater ease. Goats of this species are chiefly kept in the vicinity of Aleppo, and numbers of them are driven daily through the streets of that city to supply the inhabitants with milk, which they prefer to that of the cow. The goat of Angora, which inhabits the rocky mountains of a province of Asia Minor, is remarkable for its long, thick, white glossy hair much prized as an article of commerce, being the material from which the stuff called camlet is made. The black horns of the male of this species stand out horizontally from each side of the head, and are then twisted round in the manner of a corkscrew. The goat of Cashmere also is celebrated for its white silky hair, which was long supposed to furnish the material for the costly shawls in such high request among the great and the wealthy both

in India and Europe. These are now known to be made from the hair of a kindred race peculiar to Tibet, which loses its coat in the warmer climate of Hindostan, but has been successfully introduced into France through the public spirit of an eminent manufacturer of Paris. These goats are of different colours, black, white, bluish, and sometimes a light red: they are not so large as the smallest English sheep; and their horns grow nearly upright.

Dr. Clarke in his travels relates the following extraordinary instance of the dexterity of a goat:—"Upon our road [from Jerusalem to Bethlehem,] we met an Arab with a goat, which he led about the country for exhibition. He had taught this animal, while he accompanied its movements with a song, to mount upon little cylindrical blocks of wood, placed one above another, and in shape resembling the dice-boxes belonging to a backgammon table

In this manner the goat stood first on the top of one cylinder, then on the top of two, and afterwards of three, four, five, and six, until it remained balanced upon the top of them all, elevated several feet from the ground, and with its four feet collected upon a single point, without throwing down the disjointed fabric on which it stood. The practice is very ancient. Nothing can show more strikingly the tenacious footing possessed by this quadruped upon the jutting points and crags of rocks; and the circumstance of its ability to remain thus poised may render its appearance less surprising, as it is sometimes seen in the Alps and in all mountainous countries, with hardly any place for its feet, upon the sides and by the brink of most tremendous precipices. The diameter of the cylinder on which its feet ultimately remained until the Arab had ended his ditty was only two inches, and the length of each cylinder was six inches."

THE IBEX.

The ibex is supposed by naturalists to be the original stock from which the common goat is descended. Though nearly resembling the goat in shape, it is considerably larger; being about five feet from nosc to tail, and two feet six to eight inches high at the shoulder, and it possesses grcat strength and activity. It is generally of a dark brown colour, intermixed with gray; the belly and thighs being of a delicate fawn colour. The head is rather small, and the chin furnished with a brown or dusky beard. The horns arc very large and about thirty inches long, bending backward and sometimes extending the whole length of the body; they are of a dark brown colour, and marked with transverse semicircular protuberances or knots.

Few animals are more extensively spread

over the world than the ibex. In Europe it inhabits the snowy regions of the Alps, the Pyrenees, the Asturias, the Apennines, the Tyrol, and the Carpathian mountains. In Asia another variety is found in Siberia and part of Bucharia; a third and very handsome variety on the summit of the Caucasian mountains and on the higher lands of Georgia. In stature it resembles the Alpine ibex; but its colour is a richer brown on the back, and it has more white on the breast. The Abyssinian ibex is taller than the European; its horns are very differently bent, being closer on the forehead, forming a semicirele backward, and being nearly triangular in shape; while the throat is as remarkable for a long mane-like appendage as the face is for an almost total absence of beard. It is found among the mountains of Abyssinia, Upper Egypt, the countries bordering on the Red Sea, on Mount Sinai, and in Persia.

In its general habits and manners the ibex resembles the common goat, but it possesses every attribute of strength and activity in a degree proportioned to its natural state of wildness. It delights to climb mountains, and to hang upon the brink of precipices. It is said that if there be any inequalities in which it can set its feet, it will mount an almost perpendicular rock of fifteen feet at three leaps, or rather at three successive bounds of five feet each. Without finding to appearance any footing on the rock, it seems to touch it merely to be repelled, like an elastic substance striking a hard body.

The chase of the ibex among the snowy mountains of Savoy and Switzerland, where of late years it has become more rare than in the Tyrol, affords an object of hazardous but most infatuating excitement to the hardy mountaincers of those countries. Like the chamois, the stronger ibex is fond of the wildest

and loftiest crags. In common with all the varieties of the wild goat, he perceives the approach of the hunter at an incredible distance; announces the danger to his companions by a sort of whistle, and betakes himself to the most inaccessible retreats, among which despair sometimes impels him boldly to face his rash pursuer on the very edge of some pathless precipice, where the animal has been known to rush headlong on the hunter with such fury that both have rolled over into the abyss and miserably perished. It is also said that when driven to extremity it will fling itself from some steep ridge, and falling on its horns spring up again and escape unhurt from its pursuers.

Two or three hunters usually associate in this perilous occupation. Armed with rifles, and furnished with small bags of provisions, they erect a miserable hut of turf among the heights, where they pass the night without

fire or covering: and on awaking in the morning it is not uncommon for them to find the entrance to their hut blocked up with snow three or four feet deep. As the ibexs ascend to the higher regions as soon as the sun begins to gild the tops of the mountains, the hunters, in order to gain the heights before them, are obliged to be stirring before the earliest dawn: for when the crafty animals discover them, either by scent or sight, they betake themselves to flight, and will run ten or twelve leagues till beyond the reach of danger, bounding up perpendicular ascents and over the edge of precipices where no human foot dare follow them. Sometimes the hunters, when in pursuit of this animal, being overtaken by darkness, amid crags and precipices, are obliged to pass the whole night standing, and grasping each other for the sake of mutual support, lest, overpowered by sleep, they should fall and be precipitated into the abyss.

THE GAZELLE.

This elegant animal belongs to the antelope family, the individuals of which, with the exception of two or three species, inhabit the hottest parts of the globe, not extending at least beyond those regions of the temperate zones that border on the tropics. Thus none of them, excepting the chamois and the saiga or Scythian antelope, are to be met with in Europe; and though the climate of great part of America is suited to their nature, not a single species has yet been discovered in the New World. Their proper abodes seem, therefore, to be the hot countries of Asia and Africa, and there the species are very numerous.

A remarkable fact connected with the locality of the antelope genus is, that the several

species appear not only never to mix, but to receive no modifications from climate. It is not those which are farthest separated by geographical position that differ most; the dissimilarity being greatest between the several species of the same country, as in the vast herds of antelopes in Southern Africa. Hence we may infer that those specific differences cannot have resulted from varieties of temperature, a conclusion which is strengthened by the observations of Pallas, according to which the species which are most similar bear the strongest antipathy towards each other. It is still more remarkable that even in the same country the abodes of each species are invariably distinct; for we are assured that in Southern Africa the antelopes which inhabit the plains never enter the forests, and that those of the forests never frequent either the plains or the marshes; each species confining itself to a peculiar site.

Almost all the species of the antelope tribe are of a gentle and social nature. In general with the exception of some of the smaller species in South Africa, they live in large herds. Their sight, hearing, and smell, are most acute. Of a peculiarly elegant figure, of a restless and timid disposition, they are extremely watchful, swift, and agile; and they bound along with such lightness and elasticity as to fill the spectator with astonishment.

The most graceful and elegant of antelope is the gazelle. It is about three feet high at the shoulder. Its figure, in the combination of elegance and lightness, with much muscular power, resembles that of the roebuck. Its horns are about a foot in length, and the colour of its coat, which is close and smooth is lightish yellow above and white underneath. The people of the East conceive it impossible to attribute greater beauty to the eye than

when they compare it with that of this elegant animal.

The north of Africa seems to be the original domicile of this graceful antelope, though, to judge from the traditional legends and poetry of the nations of central India, it must also inhabit some of the regions immediately adjacent to them. It is certain, however, that in those desolate provinces of North Africa which divide Morocco, Algiers, Tunis, Tripoli, and Barca from the Date country, extending along the borders of the Great Sahara to the confines of Egypt, and still more inland, in the heart of that vast continent, the gazelle is met with in countless herds. Their mode of defence is like that of different gregarious tribes of wild goats: they form a circle, and present their horns in every direction to the beasts of prey who so often and so successfully attack them.

The chase of these animals is a favourite

amusement with the eastern nations. Th greyhound, the fleetest of dogs, is found un equal to the pursuit; the sportsman, there fore, trains up the falcon to seize the anima and impede its motions, in order to give th dogs an opportunity of overtaking it. I India and Persia the cheetha or hunting leo pard is employed for the same purpose. Th people of those countries also have recours to the following stratagem to approach the within gun-shot. They train a young bulloc to carry a sportsman on his back. Havin arrived at a certain distance from the game the man alights, and keeps close behind th animal so as not to be seen. In this manne he gets pretty close to the antelopes, whic continue grazing, unsuspicious of danger, rise and fires. It has been ascertained that it i easier to kill a stray antelope than to approac a herd, the young ones of which, male an female, stationed at some distance from th

rest, keep a vigilant look-out in all directions; for, even when the stratagem just described is employed, if the man misses his first aim, the animals are gone in a moment, before he has time to load and fire again.

Many fruitless attempts have been made to tame antelopes. When shut up in parks with tame deer, they have generally refused their food and killed themselves by dashing their heads against the wall of their prison. The following fact related by Mr. Forbes proves, however, that it is not absolutely impossible to tame this elegant animal.

At one of the parks of the Peishwa of the Mahrattas, near Poonah, Sir Charles Malet witnessed a curious exhibition with these animals, which are said to have an ear for music. The company being seated in a tent pitched for the purpose, four black antelopes, of noble mien and elegant form, made their appearance at some distance, moving gracefully before a

party of cavalry, who, forming a semicircle gently followed their pace, each horseman holding a long pole with a red cloth at the end. On approaching the tent, a band of music struck up in loud notes, and three of the antelopes entered in a stately manner. Two swings commonly used by the Indians being suspended for the purpose, an antelope ascended on each swing, and couched in the most graceful attitude: the third reclined on the carpet in a similar posture. When the loud music ceased, a set of dancing-girls entered and danced to softer strains before the antelopes, who, chewing the cud, lay in a state of sweet tranquillity and satisfaction. At this time the fourth antelope, who had hitherto appeared more shy than the rest of his comrades, came into the tent, and laid himself down on the carpet in the same manner. An attendant then put one of the swings in motion, and swung the antelope for some time

without his being at all disturbed. The amusement having continucd as long as the Peishwa thought proper, it was closed by the game-kecper placing a garland of flowers ovcr the horns of the principal antelope, on which he rose, and thc four animals went off together. The Peishwa informed the British resident that seven months had been employed to bring the animals to this degree of familiarity, without thc slightest constraint, as they wandered at pleasurc during the whole time among herds of deer in the park, which is not enclosed, and has no kind of fence. The Peishwa was persuaded that they were thus attracted by the power of music, aided, perhaps, by somc particular ingenuity of the men who profess the art of familiarising this beautiful and harmless animal.

In illustration of this spectacle Mr. Forbes makes mention of a Hindoo painting in his possession, in water colours, and very well

executed, representing a number of young females playing on instruments, and antelopes attracted by the music, approaching from the woods.

On this subject, too, the late Sir William Jones relates, in an article in the Asiatic Researches, that he had been "assured by a credible eye-witness that two wild antelopes used often to come from their woods to the place where a more savage beast, Sirajaudaulah, entertained himself with concerts; and that they listened to the strains with an appearance of pleasure, until the monster, in whose soul there was no music, shot one of them to display his archery."

THE GNU.

A MORE singular combination of forms than the external structure of the gnu can scarcely

GNU.

be imagined. Among the compound quadrupeds produced in the southern and central regions of Africa, there is none in which the figures of several distinct races are more intimately blended and fashioned into one. The characters of the buffalo, the horse, and the antelope, are equally impressed upon this animal.

Its ponderous head closely resembles that of the buffalo in the strength of its horns, the position and expression of its eye, and its almost truncated snout; while the length of its face and legs, and the contracted dimensions of the chest, bear a closer relation to the horse. The outline of the body from the withers is marked by all the characters, which, in a greater or less degree, are common to the extensive family of antelopes; but the forequarters and withers are still more closely allied to the buffalo family—the bison, for example. An additional feature of resem-

blance to the latter is a long shaggy mane hanging from the throat, and continued from the chest and part of the belly. The fore legs, hind-quarters, and tail, differ from those of the horse in nothing but the divided hoof. Half-way down the face and parallel to the eyes runs a formidable screen of bristles, of such length and harshness as to resemble combs of wire or whalebone rather than hair. These bristles give the animal a wild ferocious aspect, and are strongly erected when it is excited; for instance, at the sight of any object of a red colour, an antipathy which it shares with every known species of the ox tribe.

The editor of "The Menageries," (Library of Entertaining Knowledge,) states on the authority of Mr. Pringle, that the gnu frequently appears both singly and in herds among the mountains near the Scottish settlements at Bavian's river in the Cape colony.

"It was one of our amusements," says he

"when approaching these animals, to hoist a red handkerchief on a pole, and to observe them capering about, lashing their flanks with their long tails, and tearing up the ground with their hoofs, as if they were violently excited, and ready to rush down upon us; and then, all at once, when we were ready to fire upon them, to see them bound away, and again go prancing around us at a safer distance. When wounded, they are reputed to be sometimes rather dangerous to the huntsman; but though we shot several at different times, I never witnessed any instances of this. On one occasion, a young one, apparently only a week or two old, whose mother had been shot, followed the huntsmen home, and I attempted to rear it on cow's milk. In a few days it appeared to be quite as tame as a common calf, and seemed to be thriving; but afterwards, from some unknown cause, sickened and died."—"In consequence of a tendency

which the farmers say they evince to catch and to communicate to the cattle a dangerous infection, the practice of rearing them as curiosities has been abandoned. I know not if this imputation be correct; but it is true that infectious disorders occasionally prevail to a most destructive extent among the wild as well as the domesticated animals in South Africa, and especially among the tribes of larger antelopes."

Another species of gnu, found farther northward, in the shape of its horns and some other particulars, still more resembles the ox. This species has been described by Burchell under the name of *antilope taurina*.

In the Surrey Zoological Gardens there are two fine specimens of the male and female gnu, the property of Mr. Cross. In the summer of 1833, one of these animals, which though naturally tolerably gentle, are somewhat uncertain in their temper, being need-

GIRAFFE.

lessly chastised by a keeper, furiously attacked and so severely injured him that he dicd in consequence.

THE GIRAFFE.

THE camelopard, now more commonly called the giraffe, is the tallest of quadrupeds. It is a ruminating animal, and chews the cud likc all the othcr members of the Cervus, or deer, family. Its peculiar food, in the vast and desert tracts which it inhabits in the intcrior of Africa, is a tree of tlie mimosa species, called by the natives *karaaf*, the leaves and the young shoots of which it devours with avidity. In grass pasturcs it has been observed to crop tlie herbage with equal rcadiness. The head, though extremely small in proportion to the bulk of its body and the height of its legs, resembles in figure that of

the deer, while the lower part of the face as nearly approaches to that of the camel. The ears are long and erect; the horns, which are somewhat shorter, look like two bony protuberances from the forehead, placed very close together, covered with a hairy membrane, and each terminated at the top by a tuft of bristles, similar to those which cover both its upper and lower lip. The eye has that soft expression for which the antelope tribes are remarkable; and it is of so very deep a hue that it is difficult to convey an adequate idea of it without the contrast of colours. Between the horns commences a mane of short and almost straight hair, which is continued over the neck and on to the withers. The neck, though when erect nearly half the height of the animal, is elegantly proportioned, slender, and stag-like. The shoulder is large, prominent, and heavy, and the thigh, both of the fore and hinder limb is thick and

coarse, while the leg is as fine as that of a deer, and, as well as the external outline of the hoof, in form not unworthy of a blood horse. The knee has a swollen and misshapen appearance, probably owing, like the excrescence on the chest, to the way in which the animal reposes. From a due consideration of the figure of this animal, it is evident that the apparent disparity between the length of the fore and hinder legs, arises from the disproportion between the hinder and fore quarters. The tail reaches below the houghs, and terminates in a tuft of long, straight, blackish hair. The hoof is symmetrical, though cloven, or divided in the centre. The body, head, neck, shoulders, and thighs, are covered with large clouded spots of reddish brown, regularly disposed, but of unequal size, on a ground of yellowish white.

The giraffe, of which but one genus is known, is found in Africa only, between the

latitude of about 28° south and 20° north. It seems seldom, if ever, to descend to the plains on the sea-coast, and, though frequently met with in the forests of Senegal, it is scarcely known to the natives of Guinea.

This animal was known to the Romans, and was exhibited by the emperors at the games in the Circus, or in their triumphal processions. It was frequently mentioned by the older travellers in those terms of exaggeration which they naturally derived from the accounts of Africans. Thus Purchas describes it as "a beast not often seene, yet very tame, and of a strange composition, mixed of a libard, (leopard,) harte, buffe, and camel; and, by reason of his long legs before and shorter behind, not able to graze without difficulty: so huge that a man on horseback may passe upright under him; feeding on leaves from the tops of trees, and formed like a camel." It had not till lately been seen in Europe since

the end of the fifteenth century, when the Sultan of Egypt sent a giraffe to Lorenzo de Medici, which became quite familiar with the inhabitants of Florence, living on the fruits of the country, especially apples, and stretching its long neck up to the first floors of the houses, as if soliciting something to eat. Its absence from Europe for three centuries and a half caused doubts to be entertained not merely of the accuracy of the descriptions given of it, but of the very existence of such an animal.

Le Vaillant was the first modern traveller to communicate from actual examination precise notions of the form and habits of the giraffe. After giving a highly picturesque description of his first encounter with the animal in the land of the Great Namaquas, he furnishes the following particulars respecting its general appearance and manners :—

"If I had not myself killed the giraffe, I should have believed, as many naturalists have

done, that the fore-legs are much longer than the hind. This is an error, for the legs have the proportion of those of other quadrupeds in general. What has led to this error is, the height of the withers, which, according to the animal's age, may exceed the height of the rump by sixteen or twenty inches, and which disproportion, when we see it at a distance, must have led to the belief that its legs are longer before than behind. His mode of defence, like that of the horse and other hoofed animals, is kicking; and his hinder limbs are so light, and his blows so rapid, that the eye cannot follow them. They are sufficient for his defence against the lion. He never employs his horns in resisting any attack. The hide, which is at first of a light red, becomes of a deeper colour as the animal advances in age, and is at length of a yellow brown in the female, and of a brown approaching to black in the male. The sexes differ also in the form

and distribution of the spots, so that they may be distinguished at a distance."

In 1827 the doubts entertained of the accuracy even of Le Vaillant's statements were completely removed by the arrival in Europe of two individuals of this genus, sent as presents by Mahomed Ali, Pasha of Egypt, to the Kings of Great Britain and France. They were both females, and were taken in Darfur when very young, and fed with milk. As there was some difference in the size of the animals, the consuls of both nations at Alexandria drew lots for them, and the smaller and weaker fell to the share of England. She was then about two years old, and measured from the top of the head to the bottom of the hoof ten feet eight inches. She was placed in the royal menagerie at Windsor, where she languished for some time, till she died in the autumn of 1829, having during her residence there grown eighteen inches.

Mr. Richard Davis, animal painter to the King, who painted several portraits of this giraffe for his late Majesty, communicated to the public some interesting particulars relative to its manners and habits.

"In its natural habits I cannot conclude that the giraffe is a timid animal, for, when led out by its keepers, the objects which caught its attention did not create the least alarm, but it evinced an ardent desire to approach whatever it saw. No animal was bold enough to stand and suffer the giraffe to come near it. Its docile, gentle disposition leads it to be friendly and even playful with such as are confined with it: a noise will rouse its attention, but not excite fear. Its walk is fast, from the length of its limbs, but extremely awkward: its gallop is a succession of jumps.

"The motions of the head and neck are extremely graceful and curious. The eye is large, prominent, and exceedingly quick at

catching objects at a great distance; it is well defended by the brow, and it can see, without turning the head, behind and below it. The tongue has very peculiar properties, and can be so tapered as to enter the ring of a very small key. Its taste and smell are acute and very delicate, especially as regards the artificial food now given it [barley, oats, and split beans]; it can raise the little papillæ at pleasure, for at times the tongue is perfectly smooth and soft, at others exceedingly rough. It is a small feeder, but drinks about eight or ten quarts of milk in a day. The upper lip is longer than the lower, which assists the tongue in drawing in boughs; but when grinding its food it is contracted. It lies down when it chews the cud. I do not think it very choice of its food, so that it be green and sweet. It is fond of aromatics; the wood of the bough it also eats; our acacia and others of the mimosa tribe it does not

prefer, and it never attempted to graze: it seemed a painful and unnatural action when it endeavoured to reach the ground."

These last observations, which may have been correct as to the individual, cannot apply to the species. It is acknowledged that this individual was in a weak and crippled state, owing to the rapidity of its growth, and to its limbs being deformed by the treatment which it experienced when in the hands of the Arabs in its overland journey from Sennaar to Cairo. It was occasionally confined on the back of a camel; and, when they huddled it together for that purpose, they were not nice in the choice of cords, or the mode of applying them, and the poor animal bore marks of what it must have suffered from this cause. Moreover, M. Acerbi, the French Consul at Alexandria, who there saw both the giraffes intended for England and France, as well as two others, observes in a published

letter that "there are few naturalists who have not contributed to the vulgar error that, in eating and drinking from the ground, the giraffe is compelled to stretch his fore-legs amazingly forward. Some even assert that he is obliged to kneel down. Of the four animals which fell under my observation three took their food from the ground with comparative facility, and one of them was scarcely under the neeessity of moving its fore-legs at all. I should infer that every giraffe in a natural state is enabled to eat or drink from the ground without ineonvenienee; and that, when any difficulty exists in this respect, it is the effeet of habit aequired in the progress of domestieation."

Lichtenstein, however, bears witness to the awkward gait of the giraffe, with which, on the first encounter, he was partieularly struck. "Their flight," he says, "was so beyond all idea extraordinary that, between

laughter, astonishment, and delight, I almost forgot my designs upon the lives of the harmless creatures. From the extravagant disproportion between the height of the fore and that of the hinder parts, and of the height to the length of the animal, great obstacles are presented to its moving with any degree of swiftness. The giraffe can only gallop, as I can affirm from my own experience, having seen between forty and fifty at different times both in their slow and hasty movement, for they only stop when they are feeding quietly. But this gallop is so heavy and unwieldy, and seems to be performed with so much labour, that in a distance of more than a hundred paces, comparing the ground cleared with the size of the animal and of the surrounding objects, it might almost be said that a man goes faster on foot. The heaviness of the movement is compensated only by the length of the steps, each of which clears from twelve to sixteen feet."

The total height of the full grown male animal is said to reach nearly seventeen feet. The female which is still preserved in health and vigour in the garden of the King of France, has attained the height of about fifteen feet, measured when standing upright to the tips of the horns. She manifests all that gentleness of disposition for which the species is celebrated. She is fed on maize, beans, and barley. She is fond of carrots, but her chief predilection is for roses. These she eats with the greatest avidity, licks the hand of the giver for more, and, when the stock is exhausted, looks after those who brought them with evident disappointment. She lives in a large round building in the middle of the menagerie, to which is attached a little park, where she remains all day when the weather is warm. She is exercised by her keepers every fine morning before the public are admitted; and, as soon as the weather becomes cold, she is

covered day and night with a thick woollen hood and body-cloth. She is still attended by a Darfur negro, a droll, lively and intelligent fellow, who accompanied her from Africa. He sleeps in a little gallery at the top of her stable, and as it is open, she frequently wakes him, as soon as the sun appears, by putting her head over the railing and pushing him with her nose.

Among some of the tribes of South Africa a notion prevails that the lion occasionally surprises the giraffe when the latter comes to drink at the pools or springs; and that such is the strength of this harmless animal, that the assailant is sometimes borne away to a considerable distance before it sinks under him.

THE ELK.

The elk is the most bulky of all the animals of the deer kind. It has been erroneously supposed to affect northern latitudes, being found in Europe between the 53rd and 65th degrees —a circuit embracing part of Prussia, Poland, Sweden, Norway, Finland, Lapland, and Russia. In Asia it is found much farther south, namely, from the 35th to the 50th degree, spreading over the vast regions of Tartary, and even to the Japanese islands. In Ameriea its residence is eomprised between the 44th and 53rd degrees, comprehending the eountries round all the great lakes as far south as the river Ohio, the whole of Canada, the isle of Cape Breton, Nova Scotia, and the country bordering on the Bay of Fundy.

The male elk is about the size of a horse,

having very broad, heavy horns, sometimes weighing not less than fifty pounds: the female is smaller and without horns. The male sometimes attains the height of seventeen hands and even more; and one shot many years ago in Sweden weighed one thousand two hundred pounds. The head is long and narrow, and the neck, short and strong, is well adapted to support the heavy burden which it has to bear. The swollen appearance of the face about the nostrils, the thick neck, sunken eye, contracted forehead, large nostrils, square, overhanging lip, long asinine ears, and shaggy throat, are in this animal great drawbacks from those elegant proportions which are so much admired in the rest of the deer tribe. In his native forests, however, and in his unreclaimed state, no quadruped has a more majestic aspect than the elk, on account of his size, the beauty of his horns, the compactness of his round short

body, and the clean firm figure of his legs. His shoulders are higher than his croup, and his motions in consequencc rather heavy. His usual gait is a very rapid shuffle or amblc.

The elk frcquents cold but woody regions, in the forests of which it can readily browse on thc lower branches and suckers of trees; its peculiar structure rendering grazing an inconvenient and even painful action. The notion of the ancients that, owing to its long limbs and overhanging lips, it was compelled to walk backward as it grazed, is obviously one of the many instances in which the closest observers of nature adopted the suggestions of credulity instead of depending on actual research. The asserted liability of this animal to epilepsy is another fable, derived from equally plausible assumptions. In trotting the elk is known to hold his nose much elevated, and to lay his horns horizontally back, as it were, ovcr the shoulders, by which

means he avoids entangling them in the trees. This altitude prevents his seeing the ground distinctly; while the weight which he carries being borne very high upon his long legs—the effect of which peculiarity is increased by the height at which he steps—the animal is apt to trip by treading on his fore-heels, and the heavy falls which he consequently experiences have given rise to the notion of his being subject to epilepsy.

In winter, when the snows set in, and when the wolves in particular, urged by hunger, assemble in troops to hunt those animals which they dare not attack singly, the elks assemble in herds for mutual protection and warmth, in forests of pines and other evergreens. These herds consist of several families, the members of which keep very close together. In the severest frosts they press one against another, or trot in a large circle till they have trodden down the snow. Their

favourite food at this season is the stinking trefoil, the buds and bark of the button-wood, birch, and maple-trees, spruce and juniper pine. They browse against an ascent in preference to level ground, which, owing to their long legs and short neck, they cannot easily reach. In summer, to escape the torment of gnats and other insects, they take to the water, and swim great distances with ease: and these excursions enable them to gratify their almost ravenous appetite for various species of aquatic plants.

In 1823 a Swedish elk of extraordinary size was brought to this country. Though then only two years old, it had attained the height of seven feet at the shoulders; and it is ascertained that this animal does not arrive at its full growth till its fifth year. A Swedish farmer, who took it, in 1821, in a forest on the confines of Norway, so far domesticated it, that it would draw a sledge and

take food from the hands of his children. It was bought by Mr. Wise, the British Consul at Gottenburg, and landed at Harwich; but, unfortunately, one of its legs was broken in the attempt to remove it to the park of Sir R. Henniker, its final destination, and the noble beast died shortly afterwards. Its speed, like that of its whole tribe, was almost incredible.

The people of Canada have two methods of hunting the elk. When the lakes are not frozen the hunters assemble in canoes, and form a vast semicircle on the water, each end reaching the shore, while another party on land, attended by dogs, surround an extensive tract, and with loud shouts drive the elks they find in it to the water, into which the animals plunge, and are easily killed by the people in the canoes. The other method requires more preparation. The hunters enclose a large space of ground with stakes

and branches of trees, leaving an entrance at the farther end into another enclosure which has no outlet: into this they drive the elks, which, becoming entangled in snares, are there shot.

The North American Indians in general hunt the elk armed only with a knife or bayonet. In winter, when the snow is so hard frozen that they can walk upon it in their snow-shoes, they are frequently able to run the animal down, as from its great bulk and the slenderness of its legs it breaks through the snow and plunges up to the belly at every step. When the elk finds itself closely pressed, it stops, and keeps its pursuers at bay with its antlers and its fore-feet, for which reason the hunters are obliged to fasten their weapons to the end of a long stick, and stab it at a distance. When wounded, it will sometimes rush boldly on its assailants, and endeavour to trample them down;

in which case they are often obliged to save themselves by climbing trees.

The elk is easily domesticated. It will follow its keeper to any distance from home, and return with him at his call. Hearne informs us, that an Indian at the factory at Hudson's Bay had, in the year 1777, two elks so tame, that when he was passing in a canoe from Prince of Wales's Fort, they always followed him along the bank of the river; and at night, or whenever he landed, they came and fondled on him in the same manner as the most domestic animal would have done, and never attempted to stray from the tents. One day, however, crossing a deep bay in one of the lakes, in order to save a very circuitous route along its bank, he expected that the animals would follow him round as usual, but at night they did not arrive, and as the howling of wolves was heard in the quarter where they were, it is supposed that the elks were

Rein Deer

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destroyed by them, for they were never seen afterwards.

The elk is an animal of great utility. Its flesh is eaten and reckoned very good, though coarser and tougher than any other kind of venison; the tongue is excellent, and the fat of the nose is esteemed a particular delicacy. Its skin furnishes shoe-leather and tent-covers, and the hair of the hams, which is of great length, is employed in stuffing saddles.

THE REINDEER.

This species of the deer tribe is found in all the northern regions of Europe, Asia, and America, particularly in Lapland, Siberia, and Greenland. In a domestic point of view it is the most useful animal in the countries where it resides, rendering to their inhabitants most of the services which the horse performs for us.

The reindeer, which has the general form of the stag, is, when full grown, about four feet and a half in height. The body is rather thiek and square, and the legs are shorter, in proportion, than those of the stag. Both sexes are furnished with branching antlers, whieh are longer and larger in the male than in the female; and these they shed annually like the other species of deer. The general colour of the body is brown above and white below; but, with advancing age, it frequently becomes of a grayish white, sometimes almost quite white: but the space around the eyes is always black. The hair on the throat is much longer than on any other part, and forms a kind of hanging beard. The hoofs are long, large, and black; as are also the false or secondary hoofs behind, and these, from their contraction and expansion, make, in running, a remarkable elattering sound, which may be heard at a considerable distanee.

The reindeer has been domesticated by the Laplanders from the earliest ages. It constitutes their sole wealth, furnishing them not only with food, but with the means of communication by land in winter, for in summer the numerous lakes, rivers, and marshes, present insuperable obstacles to travelling. At about four years of age the animal, having acquired his full strength, is trained to the labour of drawing a sledge over the frozen snow; he continues serviceable four or five years, and seldom lives longer than fifteen or sixteen. The deer are yoked to the sledge by a collar, from which a trace is brought under the belly between the legs, and fastened to the fore-part of the sledge. These carriages are extremely light, and covered at the bottom with reindeer skin. The traveller, who sits in it, guides the animal by a cord fastened to his horns, driving him with a goad, and encouraging him with his voice.

This mode of travelling requires well-

trained deer and an experienced driver. The animal, if not properly broken in is unmanageable, and if the driver is inexpert, the deer especially if of the wild breed, proves restive and will turn round and rid himself of him by the most furious assaults. In this case his only resource is to cover himself with the sledge, on which the enraged animal vents his fury. The conveniences and dangers of this kind of conveyance are well depicted by Mr. De Broke, in his recent narrative of "A Winter in Lapland."

"The deer we had procured"—the traveller was making a winter journey across the province just named—"were as unmanageable and unruly as deer could well be, none of them being well broken in; and our first set off was by no means a pleasant one, as, after tumbling with the quickness of lightning down the steep bank of the river, the deer proceeded at full gallop across a very rough and broken

country, with steep and slippery descents. It was quite impossible, from the nature of the ground, to prevent being frequently rolled over in the pulk, [the sledge, to which the traveller is strapped,] and when this was the case, the strength and freshness of the deer, and the good order of the snow, which was very hard, made them regard very little the additional weight caused by the prostrate position of the sledge; so that they continued to follow at full speed the rest of the deer, leaving the unfortunate wight at their heels to find his balance again as well as he could. Notwithstanding that which had been harnessed to my pulk was by no means a lamb in quietness, I had good reason to congratulate myself upon having escaped the animal which one of the party had to his share, and which was a deer of the wild breed, that had been caught when young. In size it was larger than the others, thinner, with more appear-

ance of bone, and considerably stronger. With respect to any command over it, this was out of the question; and it dragged pulk and driver along with the greatest ease wherever it pleased."

Such instances of resistance to their drivers, however, are but exceptions in the general character of the reindeer. On another occasion, the same traveller tells us, that "the deer proceeded so steadily and quietly, that the act of driving them was merely holding the rein, which became at last so tedious, that some of the party behind lashed their deer to the sledge before, the whole keeping up a long steady trot. This is the usual pace of the reindeer in performing long journeys; for though occasionally the animal may proceed at a gallop for some miles on first starting, or in those situations where the snow is very good, it is natural to suppose that it will gradually relax its pace. The speed of the party

is entirely dependent upon the foremost deer, by which the motions of those behind are almost entirely regulated; and I observed that, when we first set off in the morning, the instant it had its head at liberty, it almost invariably commeneed a full gallop, the rest all following at a similar pace, as if moved by one eommon impulse. This was kept up by them as long as they remained unexhausted, the driver having little power to stop the animal, from the rein being merely attaehed in the manner it is to the head.

The unwillingness to separate from his eompanions is one feature of the instinet given to this animal; and it is this circumstanee which more than any other ensures the safety of the traveller. Should any aeeident separate him from his party, the deer be fatigued, or other occurrenees throw him eonsiderably in the rear, if he trusts entirely to his deer, it will enable him to overtake the rest, though they

should be some miles in advance, from the exquisite olfactory sense which it possesses. In this case the animal, holding its head close to the snow, keeps frequently smelling, as a dog would do to scent the footsteps of its master, and it is thus enabled to follow, with certainty, the track which the other deer have gone. Were it not for this property of the animal, travelling across Lapland would be not a little hazardous, particularly in those parts where the weather is the darkest, which is generally while crossing the mountains of Finmark. It often happens that the party is unavoidably scattered, and the sound of the bell enables them to rejoin each other. The bells, however, should the weather be thick and stormy, can only be heard at a short distance; and it is then by the sagacity of the deer alone that the difficulty is surmounted.

When harnessed to a sledge, the reindeer will draw about three hundred pounds; but

the Laplanders seldom allow the weight to exceed two hundred and forty. They will trot about ten miles an hour, and it is not uncommon for them to make a journey of one hundred and fifty miles in nineteen hours. In the palace of the King of Sweden, at Drotningholm, there is the portrait of a reindeer which is related to have drawn, on an occasion of emergency, an officer with important dispatches the prodigious distance of eight hundred miles in forty-eight hours. Tradition adds, that the animal dropped down dead on reaching the end of his journey.

In summer the mountain Laplander is compelled to take the most arduous journeys to the sea coast for the preservation of his deer. The causes of these migrations are thus stated by Mr. De Broke :—

"It is well known from the accounts of those travellers who have visited Lapland during the summer months, that the interior

parts of it, particularly its boundless forests, are so infested by various species of gnat and other insects that no animal can escape their incessant persecutions. Large fires are kindled, in the smoke of which the cattle hold their heads to escape the persecution of their enemies; and even the natives themselves are compelled to smear their faces with tar, as the only certain protection against their stings. No creature, however, suffers more than the reindeer from the larger species, called by naturalists *æstrus tarandi*, as it not only torments it incessantly by its sting, but even deposits its egg in the wound which it makes in the hide. The poor animal is thus tormented to such a degree, that the poor Laplander, if he were to remain in the forests during the months of June, July, and August, would run the risk of losing the greater part of his herd, either by actual sickness, or from the deer fleeing of their own accord to moun

tainous situations to escape the gad-fly. From these causes, the Laplander is driven from the forests to the mountains that overhang the Norway and Lapland coasts, the elevated situations of which, and the cool brcezes from the ocean, are unfavourable to these troublesome insects, which, though found on the coast, are in far less considerable numbcrs there, and do not quit the valleys; so that the deer, by ascending the highlands, can avoid them."

As the cocoa-tree supplies all that is necessary to the natives of the torrid zone, so does the reindeer furnish almost all that is needful to the existence of the inhabitants of the arctic regions. They subsist on its flesh, milk, and cheese; thc skin yields clothing and bedding; the sinews serve for thread for the making of sledgcs and fishing-tackle; and thc horn for a variety of domestic purposes. Thus reindecr constitute all the wealth of the Lap-

lander. "The number of deer belonging to a herd is from three to five hundred. With these a Laplander can do well and live in tolerable comfort: he can make in summer a sufficient quantity of cheese for the year's consumption, and in winter can afford to kill deer enough to supply himself and his family pretty constantly with venison. With two hundred deer a man may manage to get on, if his family be but small. If he has but a hundred, his subsistence is very precarious, and he cannot rely upon them for support. Should he have but fifty, he is no longer independent, or able to keep a separate establishment, but generally joins his small herd with that of some richer Laplander, being then considered more in the light of a menial, undertaking the laborious office of attending upon and watching the herd, bringing them home to be milked, and other similar offices, in return for the subsistence afforded him."

During the summer, the reindeer pasture upon every sort of green herbage, and browse upon such shrubs as they meet with. As winter approaches, their coat begins to thicken in a remarkable manner, and assumes that light colour which is a peculiarity of the polar quadrupeds. In winter their only food is moss, which they discover instinctively beneath the snow. On this extraordinary instinct De Broke has the following observations:—

"The flatness of the country increased as we proceeded, and at times it was even difficult to tell whether we were moving on land or water, from the uniformity of the white surface around us. In this respect our deer were far better judges than ourselves, as, though there might be a depth of some feet of snow above the ice, wherever we stopped for a few minutes on any lake, in no one instance did they attempt to commence their usual

search after their food; yet, when upon land, their natural quickness of smell enabled them to ascertain with almost unerring certainty, whether there was any moss growing beneath them or not. By the fineness of this sense of the animal the Laplanders are chiefly guided in fixing their different winter-quarters; never remaining in those parts which they know with certainty produce but little moss, from the indifference of their deer, and the few attempts made by them to remove the snow."

In hunting the reindeer, the people of the northern regions employ various ingenious stratagems. Thus the Dogrib Indians go in pairs, the foremost man carrying in one hand the horns and part of the skin of the head of a deer, and in the other a small bundle of twigs, against which he rubs the horns from time to time, imitating the gestures peculiar to the animal. His comrade follows, treading exactly in his footsteps, and holding the guns of

both in a horizontal position, so that the muzzles project under the arms of him who carries the head. Both hunters have a fillet of white skin round the forehead, and the foremost has a stripe of the same round his wrists. They approach the herd by degrees, raising their legs very slowly, but setting them down somewhat suddenly, after the manner of a deer, always taking care to lift their right and left feet at the same time. If any of the herd leave off feeding to gaze at this extraordinary phenomenon, it instantly stops, and the head begins to play its part by licking its shoulders and performing other movements. In this way the hunters reach the very centre of the herd without exciting suspicion, and have leisure to single out the fattest deer. The hindmost man then pushes forward his comrade's gun; the head is dropped; and both fire nearly at the same instant. The deer scamper off, and the hunters after them: in a short

time the animals halt to ascertain the cause of their terror; their pursuers stop also, and, having loaded as they ran, greet them with another fatal discharge. The consternation of the deer increases; they run to and fro in the utmost confusion, and in this manner the greatest part of the herd is sometimes destroyed within the space of a few hundred yards.

Several attempts have been made, but without success, to introduce the reindeer into the British islands, though the moss upon which this animal subsists is found abundantly in Scotland and in many parts of England. About ten years since, Mr. Bullock brought over two hundred deer from Norway, some of which, with a Lapland family, he exhibited at the Egyptian-hall, Piccadilly. Nearly every one died. Some were turned out on the Pentland hills near Edinburgh, a situation considered peculiarly favourable, but all perished. A si-

milar result attended an experiment previously made by the Duke of Athol. Whether the failure of these trials is to be attributed to ignorance of the peculiar habits of the animal, or to the tenacity with which the deer tribe adhere to their original geographical position, we have no means of deciding.

THE WAPITI.

The Wapiti, which is about one-third larger than the stag of Europe, is thought by some naturalists to be identical with the Canadian or American stag: but he is heavier in the body, shorter in the legs; his horns are longer and the antlers more serpentine. When full grown, the Wapiti measures four feet and a half in height. Its summer coat differs from that which it wears in winter; when it is sometimes of a chocolate brown red,

mixed with grey all over the body: the neck is then furnished with thick long hair, which, like the soft woolly fur on its forehead, is of a deeper brown; the chin pure white, and the hind quarters and tail also white. In Mr. Griffiths's translation of Cuvier's "Animal Kingdom" is a description by Major Smith of a Wapiti seen by him in America. He was three years old, four feet six inches high at the shoulder; the nose and legs were black, the neck and back dunnish brown, the croup and tail almost white. The body was shaped like that of an ass; the eyes were dark, the aspect mild, and the horns greatly deformed.

This animal sheds its horns like the rest of the deer tribe, and the growth of the new ones is so rapid as at one period to exceed an inch and a half per day. When full grown the horns measure above three feet in length, but in some individuals they are said to be more than six. They seem to be instruments

of use; for when a small dead pine, or the bar of a fenec, sixteen or eighteen feet long, lies in their way, they will lift it, and toss it clean over their heads.

In 1822 a male and female of this spccies, caught on the banks of the Missouri, were exhibited in London. In that country they had been trained, it was said, to draw sledges: they travelled about twenty miles in an hour, and were fourteen hands high. It has been stated that the breed of these graceful animals is likely to be naturalized in England, and that Lord Glenlyon has several of the offspring of the two shown a few years since at Charing Cross. Some care, however, is required for their preservation, owing to the neglect of which it is alleged that twelve head of thc herd belonging to the late king were lost. In Canada they feed on the buds of some coniferous trees and grass; and in summer on aquatic plants, which they seek under

water, while sheltering themselves there from the bites of flies. In England they live upon the same food as the horse, and they are described as being very docile and gentle.

THE RED DEER.

THE red deer, or stag, is the largest animal of the deer kind inhabiting the British islands. Inoffensive and peaceable, elegant and active, the members of this family cannot be viewed without pleasure. In England the usual colour of the stag is red; in other countries, brown or yellow; he is about three feet and a half in height; and his branching antlers, apparently calculated for ornament rather than for aggression or defence, render him, if not one of the most useful of quadrupeds, yet one of the most superb and beautiful forms of the animal creation. His eye is re-

Red Deer.

Nayghau.

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markably expressive, being at once brilliant and mild, and his hearing and smell are extremely acute.

The horns of the stag which are branched, round, and recurved, are an index of his age. The first year exhibits only a short protuberance; the second year the horns are straight and single; the third produces two antlers, the fourth three, and the fifth four. After the stag has attained his sixth year, the number of his antlers, being sometimes six and sometimes seven, cannot be considered as an exact criterion. In the beginning of March the old ones shed their horns, but the younger not before the middle of May. At this period they separate themselves from the herd, and wander solitary and dispirited, till their antlers have again grown and acquired their complete hardness, expansion, and beauty. When this operation is completed, which is in July, the animals leave their retreats and return to the herds.

This annual reproduction is one of the most remarkable phenomena of animal physiology; the antler being a real bone, formed in the same manner, consisting of the same elements, and having the same structure as other bones, and, though weighing perhaps a quarter of a hundred weight, being completely formed in ten weeks. The life of the stag extends to about thirty years.

Mr. White, of Selborne, was the first to notice a curious contrivance of nature, which enables animals of the deer tribe to breathe when drinking, and assist them when pursued. "When deer are thirsty," says that accurate observer, "they plunge their noses, like some horses, very deep under water while in the act of drinking, and continue them in that situation for a considerable time: but, to obviate any inconveniency, they can open two vents, one at the inner corner of each eye, having a communication with the nose. Here

seems to be an extraordinary provision of nature worthy of our attention, and which has not, that I know of, been noticed by any naturalist; for it looks as if these creatures would not be suffocated though both their mouths and nostrils were stopped. This curious formation of the head may be of singular service to beasts of chase, by affording them free respiration, and no doubt these additional nostrils are thrown open when they are hard run."

Mr. Pennant observed a similar provision in the antelope, which has also a long slit beneath each eye, that can be opened and shut at pleasure; and when he held an orange to one, the creature made as much use of those orifices as of his nostrils, applying them to the fruit and seeming to smell it through them.

The hind, or female of the stag, is smaller than the male, and is without antlers. She is

strongly attached to her young, which she coneeals in the most obseure thiekets. This preeaution is very necessary; for the wolf, the dog, the eagle, the faleon, the osprey, and all the animals of the eat kind, are continually in search of her retreat; but the stag himself is the enemy most to be dreaded, and it requires all the art of the hind to coneeal her offspring from him as the most dangerous of her pursuers. At this season she manifests equal eourage with the male, and will presemt herself to the hunter, in order to lead him from the objeet of her maternal concern.

The stag is eapable of an extraordinary degree of eourage, so that it is dangerous to approach him when at bay. Some years ago a stag was enclosed in the same arca with a tiger, and, when attacked, made so desperate a defenee, that the formidable assailant was obliged to desist.

The hunting of the stag was anciently a sport reserved for royalty. During the reigns of our first Norman kings, the passion for the chase was carried to such excess, that large tracts of land were converted into forests for deer, for which purpose, as our historians relate, the Conqueror depopulated, in Hampshire alone, a district fifty miles in circumference, containing several towns, villages, and thirty-six mother churches; at the same time enacting laws of such severity for the preservation of the deer, that it was said of him, "it was better to be his stag than his subject."

The great huntings of Scotland and of the border counties are well known to all the readers of our ancient minstrelsy. The Scottish kings used to shoot the deer from an elevated seat as the packs were driven before them. A chase of this kind had well nigh prevented the miseries which afterwards befel the unhappy Mary Stuart. The story, told

by William Barelay in a Latin treatise, i thus rendered by Pennant :—

"In the year 1563, the Earl of Athol, a prince of the blood-royal, had with much trou ble and vast expense, a hunting mateh for the entertainment of our most illustrious queen: our people eall this a royal hunting. Two thousand highlanders, or wild Seoteh, as you call them here, were employed to drive to the hunting ground all the deer from the woods and hills of Athol, Badenoeh, Marr, Murray, and the eounties about. As these highlanders use a light dress, and are very swift of foot, they went up and down so nimbly, that in less than two months' time they brought together two thousand red deer, besides roes and fallow deer: the queen, the great men, and a number of others were in a glen when all these deer were brought before them. The whole body moved forward in something like battle-order. The story still strikes me, and ever will strike

me; for they had a leader whom they followed close wherever he moved. This leader was a very fine stag, with a very high head. This sight delighted the queen very much, but she soon had cause for fear, upon the earl, who had been from his early days accustomed to such sights addressing her thus:—'Do you observe that stag who is foremost of the herd? there is danger from that stag; for if either fear or rage should force him from the ridge of that hill, let every one look to himself, for none of us will be out of the way of harm; for the rest will follow this one, and, having thrown us under foot, they will open a passage to the hill behind us.' What happened a moment afterwards confirmed this opinion; for the queen ordered one of the best dogs to be let loose on one of the deer: this the dog pursued; the leading stag was frighted, he fled by the same way he had come; the rest rushed after him, and broke out where the thickest

body of the highlanders was: they had nothing for it but to throw themselves flat on the heath, and to allow the deer to pass over them. It was told the queen that several of the highlanders had been wounded, and that two or three had been killed outright; and the whole body had got off had not the highlanders, by their skill in hunting, fallen upon a stratagem to cut off the rear from the main body. It was of those that had been separated that the queen's dogs and those of the nobility made slaughter. There were killed that day three hundred and sixty deer, with five wolves and some roes."

With the progress of civilization and agricultural improvement, the number of red deer in Great Britain has gradually diminished. In England, during the last century, numerous forests formerly stocked with red and other deer, were enclosed, so that the animals are now to be found only in the parks belonging

to the crown or to private individuals, from which one is selected for the purposes of the chase, and, being generally conveyed in a covered cart to a place appointed for the meeting of the sportsmen, he is pursued by them on horseback, with dogs of a particular breed, called stag-hounds. As it is the object of the huntsman to preserve the stag from the dogs, it is not unusual to hunt the same animal several times, a practice which cannot but be condemned as cruel, renewing as it must, each time in the tormented animal all the agonies of anticipated death.

In 1814 Windsor Forest, which extended over seventeen parishes, was disafforested. Many districts of it were full of deer. Part of the forest was allotted to the crown for a park, and part given to the parishes as a compensation for certain rights which they had enjoyed. The people of the district, as soon as the bill for enclosing it had received the

royal assent, began to slaughter the deer, which they now regarded as common property.

"To save the remainder, a hunting was directed," says the author of that most amusing work, "the Menagcries," who witnessed the scene which he describes, "upon a scale which partook of the pomp of the old chivalrous days. A regiment of horse-guards was ordered out to drive the deer. Hundreds of horsemen assembled from all parts of the country; and for several days every thicket of that finely wooded district echoed, not with hound and horn, but with the trumpet summoning the cavalry to charge, or to hem in the herds that were gathering in affright from every quarter. Sometimes an old stag, made more adventurous by the new terrors which were about him, dashed through the lines of cavalry. The heavy tramp of the horse was immediately heard behind the noiseless bound

of the deer; but the chase was generally unavailing, and the terrified creature escaped to his native brakes, once more to hide in a wilderness of fern. Some hundreds of deer were at length driven into the enclosed park, and this extraordinary hunting terminated."

In Scotland red deer are yet found in Mar Forest and Glenartney; and they are still in considerable number in the western parts of Ross and Sutherland; "but," says the writer just quoted, "from their fleetness and the nature of the ground on which they are found, horses and hounds are of no use in the direct chase of them, as the steed would be required to leap precipices of fifty feet, instead of gates of five bars; and the dogs would be constantly tumbling into gulleys and ravines, which are cleared by the deer at one bound." "The largest forest set apart for red deer in Scotland, is the forest of Athol, where a hundred thousand English acres are given up to them;

and upon this large tract, neither man, woman, child, sheep, or oxen, are allowed to trespass, with the exception of those parties who are permitted to partake of the mysteries of deer-stalking."

A stock of from forty to fifty red deer is generally kept, in addition to the herd of fallow deer, in Richmond Park. Some of the stags are selected every year to be hunted by the King's stag-hounds. When a stag, which has been hunted for three or four seasons is returned to the park to end his days there, he is generally more fierce and dangerous than any of the others at a particular season of the year, when it is sometimes not safe to approach them; insomuch that the keepers when attacked by them have been obliged to fire at them with buck-shot. They attribute this ferocity to the circumstance of the deer having been much handled, and consequently rendered more familiar with, and

less afraid of, those whom they would naturally shun.

In taking the deer either for the royal hunt or the fattening paddocks, a buck, which has been previously fixed upon, is driven out of the herd by two or three keepers on horseback in succession, each closely followed by a hound. As soon as the animal has been separated from his companions, a signal is given to the dogs, which immediately pursue. The scene then becomes highly interesting. A strong deer will afford a very long chase, but when he comes to bay, the dogs generally seize him by the throat or ears: the keepers come up, take him by the horns, and, after having strapped his hind and fore-legs together, put him into a cart which follows for the purpose, to be disposed of as he may be wanted. Some danger, however, attends this sport, for, when a deer is hard pressed, he will sometimes turn upon his pursuers, and injure

the horses, and even the riders. The dogs are so well trained, and are so soon made aware which buck is intended to be caught, that they rarely make a mistake, even if the deer regains the herd after having been driven from it. It is a curious fact that when a hard-pressed deer tries to rejoin his companions, they endeavour to avoid him, or even to drive him away with their horns. So severe is this kind of chase in Richmond Park, especially when the ground is wet, that three or four good horses may be tired by a single horseman in one day's deer-taking, if each deer is ridden out of the herd and followed till he is taken. The dogs, a large rough sort of greyhound, very powerful and sagacious, are soon taught not to injure the deer when they lay hold of them.

THE NYLGHAU.

The nylghau, which name signifies "the blue ox," is one of the largest and most known of those animals which seem to be compounded of the ox, the deer, and the antelope. It is a native of northern India; has a long, pointed head, an arched forehead, full dark eyes, a square, black, ox-like muzzle, a long neck with a stiff irregular mane of black hair, extending down to the withers, while a tuft of coarse hair hangs from the throat to the dewlap. It has horns, set wide apart, and thick at the base; they bend slightly forward, are black, smooth, and of about the same length as the ears, that is, about seven inches. The tail and hoofs resemble those of the common cow. When full grown the nylghau measures about four feet four inches at

the shoulder, and four feet at the croup, which causes his fore-legs to appear disproportionably long. It is usually found single or in pairs in the woods of India, where it is a sort of royal game with the native and Mohammedan princes; and it is hunted by them to this day with a magnificence peculiar to the East. In that part of Asia its race seems destined to supply the voracious appetites of the lion and the tiger; but it is no longer the favourite game of the hunter, as it was when the endless retinue of the Mogul sovereigns used to traverse in pursuit of it the countries lying between Lahor and Agra and Delhi: the hunter now prefers the chase of its destructive enemies, the lion, the tiger, and the leopard, so that the nylghau may probably soon be left to multiply in comparative tranquillity.

When standing, the hind feet and croup of this animal are generally drawn up and ga-

thered in. This power of contraction is one of the most formidable means of defence that he possesses. The celebrated anatomist John Hunter kept several nylghaus together in a paddock, and observed that when he entered they would frequently drop on their knees. It was fortunate for him that this preparatory movement was not followed up by that terrible spring, which in the wild state immediately succeeds, and which in numberless instances has been known to overthrow both the pursuer and his horse. Thus, too, when the males fight, which is frequently the case, after making a low muttering sound, they drop down for an instant, and then spring at each other with inconceivable fury. So prodigious is the force of this spring, that in one instance a nylghau, incensed at the casual approach of a labourer who happened to be passing on the other side of a stout boarded paling, bounded at it and shattered it by the concussion. This

viciousness, which renders it dangerous in a domesticated state, is the more to be regretted, as it has been discovered, since Lord Clive introduced the first pair of nylghaus into this country, that they become naturalized in our climate with little or no apparent inconvenience. This is not surprising, since we know that they are spread over the valleys and plains at the foot of the Himaleh range, where forest and heavy cover are at hand, and modern travellers have discovered in those regions numerous herbs, plants, and fruits which are also indigenous to Britain. When naturalized he is certainly a noble denizen of our parks; and the strong resemblance visible in the structure of his legs to the deer kind, in the shape of his head and some of his features to the bovine tribe, and in the length and proportions of his body to the horse, renders him an interesting object to the physiological observer.

Musk-Ox.

Dromedary. Camel.

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THE MUSK-OX.

The general figure of the musk-ox partakes of that of the sheep and the ox. His horns are close at the base; they bend down and rather backward, not protecting the eyes, and turning outward at the ends. In the full grown animal they are about two feet long, and the pair will sometimes weigh sixty pounds. The legs are short, but clean and strong. Between the shoulders, at the commencement of the dorsal line, there is a small hump, which is usually covered with a sort of extremely fine wool. The same kind of fleece, indeed, is found all over the body under the long and silky, though shaggy, hair which covers the hide, and hangs down nearly to the ground. Winterbotham relates that the Esquimaux make caps of the long hair hang-

ing from, and entirely concealing, the extremely short tail, which are so contrived that this shaggy veil, falling over and around their faces, protects them from the mosquitoes, which are not less the plague of arctic than of tropical regions. M. Jeremie, a French officer stationed in Canada in the early part of the eighteenth century, assures us that stockings may be made from the wool of the musk-ox of finer quality than the finest of silk manufacture.

The musk-ox is not so large as the smallest Scotch cattle. He climbs up precipices with great agility, and is bold and active. Like the bison, he has a decided antipathy to scarlet colour, and expresses his irritation with inconceivable violence. He resembles other arctic quadrupeds in the closeness of his fore-legs, and also in the dorsal hump, which seems to be a character peculiar to climates of extreme heat and cold, being found equally

in the bison and the musk-ox of regions bordering on the arctic circle; and beneath the equator, and within the tropics, in the camel and the gnu of Africa, and in the buffalo and the bull of Hindostan. In the more temperate regions this kind of excrescence is comparatively rare.

On the great staircase of the British Museum is a stuffed specimen of the musk-ox. The animal to which this skin belonged, was shot by some of the companions of Captain Parry, in one of his expeditions to the Polar Seas; and it was presented by the Lords of the Admiralty to the Museum.

The adaptation of the structure of this animal to the frozen regions which he inhabits, offers one of the most striking illustrations of design with which the natural world abounds. From the shortness of his limbs he is less exposed to the snow-storms and the cold than if the trunk were more elevated; and by the

dense mass of hair, with which the whole body is covered, and which in winter becomes a thick woolly coat beneath the long straight hair that forms his outer garment, he is effectually protected from the severity of the seasons. The orbits of the eyes are remarkably prominent; and it has been conjectured, that this formation is necessary to carry the eye of the animal beyond the large quantity of hair required to preserve the warmth of the head.

The musk-ox is a native of the northern regions of North America. According to Winterbotham, in his History of America, it is most commonly found on the west side of Hudson's Bay and Seal River, where in his time the species were said to be numerous, living in herds of twenty or thirty. But the recent discoveries of Captains Ross, Parry, and Franklin, have proved that the musk-ox is more widely extended over the arctic re-

gions than former geographers or travellers were aware.

This quadruped, however, is but thinly scattered over the vast and inhospitable regions in which he is found. Mr. Fisher, who accompanied Captain Ross in his first expedition, mentions having seen only one individual of this species. Captain Franklin, in his celebrated overland expedition, killed one in August 1824.

In the following month his party saw a herd of musk-oxen grazing in a valley; but were two hours before they could come within gunshot of them. When sufficiently near, they killed the largest cow in the herd, and wounded another, which escaped. As the men were suffering severely for want of provisions, they skinned and cut up the animal they had shot in a few minutes, and devoured the contents of the stomach, which they declared to be excellent. Captain Parry, in the account of

his northern expedition, describes the flesh of a musk-ox, which had been dressed by his people, as resembling "a toughish beef-steak stewed in musk-sauce;" but his crew, being plentifully supplied, were probably rather nice in their taste.

The Indians not only eat the flesh of the musk-ox, but prepare the skins to serve for garments. In winter they bring down the oxen on sledges to supply Fort Churchill. The flesh, though it savours strongly of musk, is reputed to be very wholesome—a quality perhaps acquired by the fondness of the animal for salt. Wherever a rock with a saline incrustation, or a salt-spring, or "lick," is to be found within his range, this animal is sure to resort to it, and to lick or drink at it, apparently with great relish.

The musk-oxen are not often found at a great distance from woods; but when they feed upon open grounds, they prefer the most

precipitous situations, climbing among rocks with all the agility and precision of the mountain goat, or chamois. Their food consists of grass, when they can find it, moss, willow-twigs, and pine shoots.

Captain Franklin has given the following account of the habit of these animals :—" The musk-oxen, like the buffalo, herd together in bands, and generally frequent barren grounds during the summer months, keeping near the rivers, but retire to the woods in winter. They seem to be less watchful than most other wild animals, and, when grazing, are not difficult to approach, provided the hunters go against the wind. When two or three men get so near a herd as to fire at them from different points, these animals, instead of separating or running away, huddle closer together, and several are generally killed ; but if the wound is not mortal, they become enraged, and dart in the most furious manner at

the hunters, who must be very dexterous to evade them. They can defend themselves by their powerful horns against wolves and bears, which, as the Indians say, they not unfrequently kill. The musk-oxen feed on the same substances as the reindeer, and the prints of the feet of these two animals are so much alike, that it requires the eye of an experienced hunter to distinguish them."

The largest killed by Captain Franklin's party did not exceed three hundred pounds in weight: while the bulls killed by Captain Parry's people weighed, upon an average, seven hundred pounds, yielding four hundred pounds of meat, and standing about ten hands and a half high at the withers.

THE CAMEL AND THE DROMEDARY.

The natural locality of the camel is an arid and thirsty region, affording little vegetable food, and that little of the coarsest kind. That region comprehends Arabia, Persia, Southern Tartary, and parts of India, and the whole of Northern Africa, from Egypt to Morocco, and from the Mediterranean Sea to the river Senegal; and here he has formed the most valuable property of the inhabitants ever since the days of the patriarchs. We are only acquainted with the domesticated camel, but the natives of Central Africa maintain that it is to be found wild in the mountains to which Europeans have not yet penetrated; but it is probable that these statements refer to straggling individuals which have wandered from the control of man.

If we consider the singular conformation of the camel, we cannot but be struck with the evident marks which he bears of a regular design in his wonderful adaptation to the purposes for which he is employed. He is distinguished from the other classes of ruminating animals by his tumid and cloven lip, his prodigiously long neck, his unsightly legs and feet, and his peculiar gait: the hump or protuberance not being, strictly speaking, one of these essential characters of distinction, since the same kind of excrescence is found in the buffalo, the bison, the yak, and other animals. His feet are peculiarly fitted for the soil on which he has to tread. They are liable to be injured by travelling on stones, and he cannot well support himself on moist and slippery clays; but his broad hoofs are admirably calculated for travelling on the dry and parched sands of the Arabian and African deserts. But the peculiar and distinguishing characteristic of

the camel is its faculty of abstaining from water longer than any other animal. This Nature has enabled it to do by the singular structure of the stomach, one of the four cavities of which, having nothing to do with the preparation of the food, is destined to serve exclusively as a reservoir for water. This cavity forms a pendulous bag, in which there are twelve rows of cells, which hold the water; and it appears that camels, when accustomed to go journeys in which they are kept for an unusual number of days without water, acquire the power of dilating those cells so as to make them contain more than the ordinary quantity as a supply for the journey. The camel moreover has seven callosities, upon which he throws the weight of his body, both in kneeling down and rising up; one on the breast, two on each of the fore-legs, and one on each of the hind. These callosities, which some naturalists have ascribed to the constant

friction to which the parts they grow upon are exposed, have been observed upon a camel just born; they enable the animal to receive its load in the only position in which man could put on that load, and prevent the fracture of the skin by the pressure, either when it rises or kneels down. The hump on the back, too, is so far from being the hereditary effect of constant pressure, as some have supposed, that it is a soft, fatty substance, which is gradually absorbed into the system when the animal is without food, and is renewed when it obtains a sufficiency.

To the Arab and Bedouin the camel is what the reindeer is to the Laplander—supplying the place of the horse, the cow, and the sheep. Its milk is rich and nutritive: its flesh, when young, is excellent food; and its hair, which always falls off in the spring, is manufactured into fine stuffs, and almost every article necessary for clothing, bedding,

and the covering of their tents. When we further consider that it is the only means of conveyance and communication across the immense deserts, we shall not wonder that the Arab regards his camel as an inestimable gift of Heaven, a sacred animal, without which he could not subsist in those sterile solitudes.

In Turkey, Persia, Arabia, Egypt, and Barbary, the whole internal commerce is carried on by means of these useful animals. In those countries the camel furnishes the cheapest and most expeditious mode of conveyance. Thus Burckhardt, the celebrated traveller, says: "In countries where camels are bred in great numbers, land-carriage is almost as cheap as that by water. The carriage of a camel-load of goods, weighing from six to seven hundred pounds English, from Bagdad to Aleppo, a distance of six hundred miles, is four pounds sterling."

Merchants and travellers form numerous

bodies called caravans, in order to be able to protect themselves from the attacks and depredations of the banditti. These caravans, which journey many hundreds, nay, perhaps thousands, of miles to the place of their destination, are composed of persons either travelling for purposes purely commercial, or performing the annual pilgrimage to Mecca enjoined by the Mahometan religion, which brings together the professors of that faith from the remotest countries of Asia and Africa. Caravans of this kind have been known to consist of ten thousand persons, with perhaps the like number of camels, which sustain an important part in these extraordinary journeys. The caravans of Egypt bring to Cairo ostrich feathers, gum, gold-dust, and ivory from Abyssinia and countries still more distant; and those of Arabia exchange in that capital the spices, coffee, perfumes, and muslins of Hindostan. The productions even of

China are distributed by means of caravans through central Asia; while, by means of the camel, articles sold in the market of Timbuctoo are bartered for the commodities of Samarcand and Tibet. There are caravans trading between Cairo and the interior of Africa, and penetrating far beyond the limits of European discovery, which are wholly engaged in the traffic in slaves.

In a journey with a caravan it is essentially necessary to carry a considerable quantity of water. Sometimes a number of the camels bear nothing but water-skins; but more commonly each camel carries one skin in addition to his ordinary load. That animal himself often travels three or four days without water, drinking twenty-five or even fifty quarts when he has an opportunity: nay, the best camels for transport will, we are told, endure a thirst of ten or twelve days, though many of them indeed perish under such a prolonged priva-

tion. The ordinary burden of each camel is about four hundred weight; but very large and strong animals can carry about twice as much. Under this load they travel on an average about eighteen miles a day; being unloaded at night and suffered to feed at liberty.

In Asia, we are informed by Mr. Macfarlane, "the caravans or strings of camels are always headed by a little ass, on which the driver sometimes rides. The ass has a tinkling bell round his neck, and each camel is commonly furnished with a large rude bell, that produces, however, a soft and pastoral sound, suspended to the front of the pack or saddle. They will all come to a dead stop if these bells be removed by accident or design. We tried the experiment. Two stately camels, the foremost furnished with the bell, were trudging along the road with measured steps: we detached the bell with a long stick; they

halted as the sounds eeased, nor eould we urge them forward until their ears were eheered with the wonted musie. I have used the word *measured*, not as matter of poetry but of fact. Their step is so measured, and like cloek-work, that on a plain you know almost to a yard the distanee they will go in a given time: their paee is three miles an hour. One camel always goes first, another seeond, another third, and so on; and if this order is interfered with, the beasts will become disorderly, and will not march."

Burekhardt acquaints us with the reason for travelling in a single file. "The Souakin caravans," says he, "like those of the Hedjaz, are aeeustomed to travel in one long file; the Egyptians, on the eontrary, mareh with a wide-extended front; but the former method is preferable, beeause, if any of the loads get out of order, they ean be adjusted by leading the camel out of the line, before those behind

have come up; in the latter case the whole caravan must stop when any accident happens to a single camel. The caravans from Bagdad to Aleppo and Damascus, consisting sometimes of two thousand camels, marching abreast of each other, extend over a space of more than a mile."

Each of the camels marching in a line invariably follows the one which precedes him, and thus they are liable to be led astray in case the rider of the foremost is negligent. The leading camel requires to be excited: if not urged on by the human voice, he gradually slackens his pace, and at length stands still. All the rest do the same, for they are wholly dependent upon those which precede them for the regularity of their pace and their haltings. So completely are they under the direction of the leader, that a rider cannot stop his dromedary while its companions are moving on.

"On their journeys," we again quote the interesting communication of Mr. Macfarlane, in 'The Menageries,' "the devidjis (or drivers) always choose for halting-places spots that abound in bushes or brakes; where such are to be found, the camels are left at liberty to browse, and their drivers smoke their pipes or go to sleep. There is no danger of the camels escaping or wandering to any distance: they keep close to the spot where they are set at liberty, and can be rallied or formed in line in a moment. I have more than once seen this done by the mere voice. When they rest for the night they generally kneel down in a circle: it is rarely considered necessary to tie one of their fore-legs at the bend of the knee. They always repose on their knees; and a curious thing in relation to their natural habits is, that I never saw one of them throw himself, even for a moment, on his side. The devidjis generally sleep in the midst of

thc circle formed by the recumbent camels. The expense of maintaining these valuable creatures is very trifling: a barley cake, a fcw dates, a handful of beans, will suffice, in addition to the hard and prickly shrubs which they find everywhere but in the wildest districts of the desert."

The cxtraordinary scent of the camel enables him to discover water at a great distance, and in the most arid tracts of the desert caravans are often prcserved from destruction by this instinct. But when they have been long deprived of water, even these patient animals, at the sight of it, will break the halters by which thcy are led, and, rushing or stumbling down the banks, will throw off their loads and occasion great disorder.

Of all domcstic quadrupeds the camel is perhaps the most tame and submissive. He kncels down to be loaded and unloaded, and when overburdened makes the most piteous

complaints. He is neverthclcss cxtremely sensible of injustice and ill treatment, and when it is carried too far, the inflictor will not find it easy to escape his vengeance. "I have sometimes seen camels," says Sonnini, "weary of the impatience of their riders, stop short, turn round their long necks to bite them, and utter cries of rage. In these circumstances the man must be careful not to alight, as he would infallibly bc torn in pieces: he must also refrain from striking his beast, as that would but increase its fury. Nothing can bc done but to have patiencc and appease the animal, which frequently requires some time, by patting him with the hand; and he will at length resume his journcy of himself."

The good-nature of thc camels extends to other beasts. They pcrmit the goats of the towns and villages to share their meals, and almost to snatch the provender out of their mouths: the ass of the driver takes the same

liberties; and dogs lie down among them without interruption. Camels, however, are, like the elephant, subject to periodical fits of rage, in which they have sometimes been known to take a man up in their teeth, dash him upon the ground, and trample him under their feet. The Turks, taking advantage of these fits, exhibit camel-fights, which are a favourite amusement at Smyrna and Aleppo. Of this scene Mr. Macfarlane gives the following description:

"An inclosure is made, and two camels, previously muzzled so that they cannot hurt each other much, are driven in and incited to fight. Their mode of combat is curious: they knock their heads together laterally, twist their long necks, wrestle with their fore-legs, almost like bipeds, and seem to direct their principal attention to the throwing down of their adversary. During this combat, the Turks, deeply interested, will back some one

camel and some the other; and they will clap their hands and cry out the names of their respective favourites. The pasha of Smyrna used frequently to regale the people with these spectacles in an enclosed square before his palace. Once, however, I chanced to see a less innocent contest: it was a fight in downright earnest. Two huge rivals broke away from their string, and set-to in spite of their drivers. They bit each other furiously, and it was with great difficulty that the devidjis succeeded in separating these (at other times) affectionate and docile animals."

Among the wandering tribes of Northern Africa, an Arab family on its march presents an extraordinary appearance, the camels being laden with tents, cooking utensils, women, and children. Captain Lyon observed many of the children carried in leather bags, commonly used for holding corn; and on one occasion he saw a nest of children on one side of a

camel, and its young one, in a bag, on the other. Riley, who was a captive to the Arabs, in his journey with them through the Great Desert, used to assist the women and children to place themselves in baskets, made of camel's skin, with a wooden rim around them, over which the skin was sewed, capable of holding three or four with perfect safety, if they only took care to keep their balance. The wives of chiefs and opulent persons sit cross-legged upon a small round concave saddle in the form of a stool, over which a small awning is sometimes raised to screen the rider from the sun. A Moor or a negro slave leads the animal along by a cord fastened to a ring which passes through the cartilage of the nose. Sometimes two or more camels will bear a sort of litter, in which women and children ride with considerable ease. At others the camel is laden with large panniers filled with heavy goods, or with bales strapped on his

back, and fastened either with cordage made of the palm-tree or thongs of leather. Buckingham saw camels carrying mill-stones nearly six feet in diameter; one being laid flat on the animal's back, in the very centre of the hump, resting on the high part of the saddle, and being secured by cords passing under his belly.

The only mechanical employment that gives a variety to the pastoral life of the Arabs of the African desert, is the manufacture of the camel's hair into garments and tent covers. It is the younger animals which exclusively supply the hair for these purposes: that of the older camels they convert into a coarse thread, of which they make a kind of vessel impermeable to liquids, that answers the purpose of our buckets.

Burckhardt informs us that at Souakin whole herds of camels are left to pasture without either man or dog to tend them.

These camels were, like those of Nubia, in general of a white colour.

Some of the tribes of the desert keep camels almost entirely for the sake of their milk and flesh, very few being employed as beasts of burden: these appear to be frightened at the approach of man, and also of loaded camels. In the Arabian and Syrian deserts, the camels, when grazing, come running and frolicking in rather an unwieldy manner towards any strange camel, which they readily perceive and at a great distance. They will easily obey the call even of strangers, if they are Bedouins, like their own masters.

The dromedary is not a different species, but only a distinct breed of the camel; it is to a camel what a racer is to a horse of burden. There are dromedaries as well as camels with both one and two humps.

The dromedary has for two centuries been reared at Pisa in Italy; but it has degene-

rated there, being weaker than the same animal in the East, and its life of shorter duration. In 1810 the stud of dromedaries, which belongs to the Grand Duke of Tuscany, and is kept at San Rossora, consisted of about one hundred and seventy males and females. Of this establishment M. Santi has furnished a very interesting account. "The dromedary," he says, "has a remarkably small head, slender neck, lean body, almost fleshless limbs, and jaws and teeth sufficiently strong to crush thorns and briars, the branches of trees, and even the husks of dates. My observation of the habits and conformation of our dromedaries has convinced me, that they were formed by nature with such a peculiar economy, as to require only the most scanty nourishment, and that of the coarsest kind, to support existence. The green and tender grass which other cattle eat with such avidity is neglected by this animal, which on the other

hand greedily devours the leaves of the oak, the cork oak, and the alder, and feeds with manifest delight on every hard and dry substance which he can find, such as the thorn, the thistle, and the broom. He easily fills his small and contracted stomach, and ruminates his food: he is provided with a bag or reservoir of water to serve him in time of need, having the power to force the liquid back into his first stomach, and even to his mouth, to allay his thirst, and soften by rumination the hard dry herbs upon which he feeds. The large lump which he has on his back is a mass of fat destined to supply the want of food by absorption."

The dromedary is more numerous and more extensively diffused than the camel; the latter being seldom found except in Arabia and some parts of the Levant, while the former is spread over the whole of western Asia and the north of Africa. Though in-

ferior in size to the camel, the dromedary is swifter in pace, and will carry a man a hundred miles a day for nine or ten successive days, without needing either whip or spur.

Jackson, in his account of Morocco, states that the fastest breed of the swift dromedary, which is called a sabayee, will perform in five days a journey which would take a caravan thirty-five. Assuming the mean daily rate of the heavy caravan to be about eighteen miles, it appears that the sabayee will accomplish six hundred and thirty miles, in five days—an astonishing effort of speed and perseverance. The same writer relates the following romantic story of a swift dromedary:—"Talking with an Arab of Suse on the subject of these fleet camels, he assured me that he knew a young man, who was passionately fond of a lovely girl, whom nothing would satisfy but some oranges. These were not to be pro-

eured at Mogadore, and, as the lady wanted the best fruit, nothing less than the Morocco oranges would satisfy her. The Arab mounted his dromedary at dawn of day, went to Moroeeo, about one hundred miles from Mogadore, purchased the oranges, and returned that night after the gates were shut, but sent the oranges by a guard of one of the batteries."

The saddle used with these dromedaries, is placed on the withers, and eonfined by a band under the belly. It is very small and diffieult to sit, whieh is done by balancing with the feet against the neek of the animal and holding a tight rein to steady the hand. The first experiment made by a person unaccustomed to the motion of the dromedary is generally attended with some danger. "The camel," says Denon, who aeeompanied the French army in the invasion of Egypt, "slow as he generally is in his actions, lifts up his

Alpaca. Llama.

Wild Boar.

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hind legs very briskly at the instant his rider is in the saddle; the man is thus thrown forward: a similar movement of the fore legs throws him backward. Each motion is repeated; and it is not till the fourth movement, when the camel is fairly on his feet, that the rider can recover his balance. None of us could resist the first impulse, and thus nobody can laugh at his companions." Thus too Mr. Macfarlane relates that, on his first mounting a camel, he was so unprepared for the effect of the animal's rising behind, that he was thrown over his head, to the infinite amusement of the Turks.

THE LLAMA.

In the llama, or guanaco, and its kindred species, the alpacos and the vicugna, Nature seems to have designed to compensate the new

world for the camel of the old. Though these American animals, as in various similar instances, are not equal to ours in size and strength, still they bear a close resemblance to them in figure and manners, and in the services which they render to man. The first deserves more particular notice, as it is almost the only indigenous beast of burden in Peru, by which the ores are conveyed from the mines to the smelting works, and the bullion to the places of consumption and exportation.

The llama, properly so called, is the largest of this family. The head, which nearly resembles that of a foal, is carried in a horizontal direction, like the camel's, and it has a long neck. Its beautiful black eye expresses mildness, fearlessness, and confidence. The body is covered with long coarse wool, which is shortest on the neck and belly. The colour varies; being sometimes nearly black, fawn-coloured, spotted, and white; but white llamas

are very rare. In 1805, when a llama of pure and entire white, intended as a present to the Empress Josephine, was brought to Buenos Ayres to be embarked for Europe, it was the first of that colour which had ever been seen even in the capital of Rio de la Plata. A llama of this colour has long been an inhabitant of the Zoological Gardens in the Regent's Park.

The usual height of the llama, from the ground to the top of the back, is from three feet and a half to four feet, but it sometimes exceeds the latter; and Molina states that in some instances the animal stands as high as a moderate-sized horse. In general aspect the the llama has been usually compared with the deer, and so close is the resemblance, that some years since an individual of the domestic breed was fitted with a pair of horns and sustained the part of a stag in a hunt, at one of those exhibitions of animal performers for

which our theatres were then distinguished. If the llama resembles the stag in appearance, so he also does in swiftness. It is related that one of the incas of Peru once complimented a messenger, who had performed a journey with extraordinary speed, by saying to him, "Tia Wuanacu," "Sit down guanaco." The town where these words were uttered takes its name from them, and retains it to this day.

Like the camel, which it much resembles in some particulars, though it is of more graceful form and smaller size, the llama has a small head without horns, a very long neck, an upper lip more or less cleft, and long hair, sufficiently fine for spinning. On close observation, however, it is found to differ essentially in the form of the leg, which is much cleaner and more free from excrescences than the camel's, in the length of its ears, in the structure of the toes, and hoof, and in its tail, which is

shorter and thieker. Yet, in their internal strueture, and their four stomachs, the two genera are nearly alike. Externally the llama has not the same kind of hump as the camel.

The native region of the llama is the lofty range of the Andes in Peru, but it is remarkable that though these mountains run on into the province of Quito, yet the animals of this family are not found in a state of nature higher than the tenth degree of south latitude. In the southern parts of Peru, where whole herds of these useful animals are found wild, they subsist on short moss and a speeies of grass called yeho; but nearer to the equator they are met with only in a state of domestieation; and the Peruvians, who are remarkably fond of all tame animals, manifest a peculiar affection for the llama.

Ulloa tells us that before they begin to employ thesc animals in carrying burdens, they hold a kind of festival in which they formally

admit them, as it were, into their society and companionship. In the enclosed court attached to their huts, they first adorn them with silk ribbons, worsted stuffs, and tassels. They invite their friends to a treat of chica, (a fermented drink made with maize,) brandy, and roasted Indian corn; and dance to the sound of small drums and fifes. During these diversions, which are generally kept up for two days, they frequently visit their beloved animals, which meanwhile remain in a corner of the court, embrace them, and bestow on them a thousand caresses, holding bottles of chica and spirituous liquors to their noses; and, though the llama will not touch a drop, the Indians deem it right to give this token of kindness to their future companions. At the same time they talk to them in the most friendly manner, and pay them many compliments, as though they were rational beings, with whom they were seeking to ingratiate themselves.

When this festival is over, they begin to train the animals to carry burdens. In this business they treat them with great indulgence, not driving them, but allowing them to take their own pace; and, as the llama is a gentle, intelligent, and docile creature, it soon learns to attend to the whistle and the guidance of its master.

Though it never gallops or trots, yet the pace of the llama is not slow; at the same time it is so easy and so sure-footed, even in the mountains, that it is employed in preference for riding by females.

The domestic guanaco is larger than the wild one; being the only beast of burden found by the Spaniards in Peru, it soon became a favourite with them, not only for its utility, but for its solemn, slow, majestic, and steady gait. The puntera, or leader of a drove of loaded llamas, is generally an old one that has been well broken; his head is ornamented

with ribands, small streamers of coloured cloth, and little bells, and his ears with rings.

The llama will carry from one hundred weight to one and a half. If overburdened and urged to proceed, or if it is deprived of the time for feeding, it lies down, uttering a complaining noise, and all the efforts of the driver to make it rise are unavailing; it will perish rather than stir from the spot.

At night these animals are usually allowed to feed; they then lie down to rest themselves and ruminate. In lying down they kneel upon their fore legs and draw the hinder ones beneath them, so that they are completely covered by the body, while the neck and head are constantly kept upright.

The vicugna, which is smaller than the llama, very much resembles the European goat, only that its neck is longer, its head rounder, and that it has short erect ears, and no beard. Notwithstanding the resemblance

of this animal to the llama, it differs from it materially in disposition. The vicugna cannot be tamed; it inhabits the lofty mountain-peaks of Chili and Peru, where it feeds in herds upon the short grasses, and preserves its freedom. It shuns man, running away even when it descries him at a great distance, so that it is only by regular hunting parties that its valuable wool can be obtained.

The animal being as fleet as it is shy, and frequently inhabiting inaccessible mountains, the Indians go out in companies to hunt it. As it is very difficult to get within gun-shot of the vicugnas, the hunters encompass with ropes an extensive tract in which they discover herds of them feeding. To these ropes, which are about the height of the neck of the animal from the ground, they hang rags of a red or any other glaring colour at certain distances. They then drive the vicugnas together by means of dogs trained for the purpose. The

animals, perceiving the rags waving in the wind, are so terrified that they stand still, without attempting to leap over the ropes, which they might easily do. The hunters then enter the circle, noose them by the lasso, or even take them by hand, and kill them.

The skins of the vicugnas are tied up by the hunters in bales or bundles, and delivered entire to the dealers—a precaution which is necessary to prevent deception in regard to the wool. The soft, silky, delicate fleece, is either of a pale red, like rose-leaves, or grayish. It can only be usen for fine stuffs, while the coarser wool of the alpacos is employed for those of stronger texture, and also for hats. It is said that eighty thousand of these animals are thus killed annually for the sake of their wool, and yet the species does not appear to diminish. Gregoire de Bolivar informs us, that in his time the llamas were so numerous that every year four millions were killed for

their flesh, which is thought to equal venison, and that three hundred thousand were employed at the mines of Potosi.

It is to be regretted that experiments on a large scale have not been made with judgment to introducc this species into Europe. The trials made for this purpose in France prior to the Revolution seem not to have been governed by a due regard to the climate. It is not improbable that thc vicugna might be naturalized in the Pyrenees; and if their flecce were to be shorn, without killing the animals, as in Peru, it might lead to the establishment of a new and important branch of commcrce.

The alpacos belongs to the same family as the llama. It is smaller than the domestic or even thc wild llama, being about two feet eight inches high at the shoulder. Its form is light, its body short, its neck straight, its croup clevated; the nosc and visage smaller and more rounded than in the othcr varietics;

and its eyes are proportionably larger, darker, and more prominent. The legs and the ears are occasionally handsomely spotted. The neek, back, flanks, and breast, are generally of a yellowish brown; the head mostly gray, darker on the nose, and of a rusty colour behind the ears.

The alpacos is often seen among the most solitary fastnesses in thc snowy mountains of Peru, feeding in herds of one or two hundred. These herds havc a sentinel posted on some elevated station, to announce the approach of an enemy. Garcilasso says, that the males remain on the high cliffs, while the females feed in the bottoms and valleys. On descrying the hunters, they snort, and, if pursued, collect the females together, and drive them on before. When in danger they descend from the heights which they frequent for their favouritc food, and seek safcty in the woods and thickets of the plains.

It is well known that the alpacos and llama are rarely moved by blows; but that they are very sensible to kindness and caresses. In one of the plates to Herrera's work, is the representation of an Indian coaxing and kissing a llama, to induce him to rise from the ground and pursue his journey.

Llamas have frequently been brought to England within the last twenty years. The late king had had several at Windsor, which were allowed the range of a paddock, but did not long endure the climate. In the gardens of the Zoological Society there are two individuals of the llama family. One presented by Robert Barclay, Esq. remarkable for the lightness of its figure, the brilliancy of its eye, and the beautiful tawny brown colour of its coat, is about four feet high to the withers. It exhibits the peculiarity observed in its species of spitting when offended. Older travellers have asserted, that its saliva is venom-

ous and blisters the skin; but the visiters of the gardens have abundant opportunities of aseertaining tlie fallaey of this statement. The white llama, the gift of the Duke of Bedford, differs eonsiderably from the other, being larger, more museular, and eovered with a mueh longer and eoarser fleeee. In disposition he is extremely mild and familiar.

A herd of thirty-six llamas, alpaeos, and vieugnas, were brought, in 1808, from Lima, in Peru, and Concepeion in Chili, to Buenos Ayres, by short journeys, of two or three leagues, being fed on tlie road with potatoes, maize, and hay. They were shipped for Cadiz, where eleven only arrived, and two of these died there. They were destined as a present from Godoy, the Prinee of the Peaee, to the Empress Josephine; but, having arrived just at the period of his disgraee, the people, in hatred of the late minister, would have thrown the llamas into the sea. They were saved,

however, by the governor of Cadiz, and committed to the care of Don Francisco de Theran, who had a fine zoological garden in Andalusia. Here Marshal Soult took them under his care, and Bory de St. Vincent, an eminent naturalist, who accompanied the French army, studied their habits with great attention. From these observations, it appears that the fleece of the alpa-vicugna is much longer than that of any other variety, and six times as heavy.

THE WILD BOAR.

As the hog is one of the most prolific quadrupeds, it is also one of those which are most extensively diffused. It is found in almost every latitude, except within the frigid zone, and thrives in every temperate climate; and,

it is a singular fact, that this animal had found its way to the most sequestered islands of the Pacific Ocean, though it did not exist in America until introduced there by the Spaniards. In most parts of that continent the hog has multiplied to such a degree that it now runs wild in the woods; but how or when it was carried to the South Sea islands is a problem which is not likely ever to be solved.

The wild boar was, without doubt, the original stock of our common swine, the only difference between them being such as may readily be supposed to exist between the wild and the domesticated animal. It was formerly a native of Britain, as it appears from the laws of the Welsh Prince Hoel Dha, who permitted his grand huntsman to chase that animal from the middle of November to the beginning of December. William the Conqueror decreed that all persons convicted of

killing wild boars should be punished with the loss of their eyes, and Fitz-Stephen informs us, that, when he wrote, in the time of Henry II. wild boars were among the tenants of the vast forest which then existed to the north of London.

This animal inhabits most parts of Europe, excepting the British isles and the countries to the north of the Baltic. Wild hogs are found in Asia, from Syria to the borders of Lake Baikal; over nearly the whole continent of Africa; and in America, where they are said to clear the country of rattlesnakes, which they devour with impunity.

The wild boar is, in general, considerably smaller than the domestic hog, and invariably of an iron-gray colour, inclining to black. His snout is somewhat longer in proportion than that of the domestic animal; his ears are rounder and shorter, and, with his feet and tail, black; but he is chiefly distinguished

by his formidable tusks, which in some instances are almost a foot long, and capable of inflicting the most severe and even fatal wounds.

These animals, when young, keep together along with the old ones, never wandering by themselves till they are strong enough to cope with the ravenous wolf. When attacked, the strongest of the herd front the enemy, forming themselves into a ring, and thrusting the weaker into the centre; and, in this position, few beasts of prey dare to assail them. On arriving at maturity, the wild boar ranges the forest alone and fearless, not dreading any single adversary. He offends no other animal; but is, at the same time, a terror to the fiercest inhabitants of the woods.

The wild boar subsists on acorns, mast, and roots of various kinds, and also occasionally devours such animal food as he happens to meet with. In most of the countries where

he is to be found, the hunting of the wild boar constitutes one of the principal amusements of the great; and it is a sport attended with some difficulty and danger, on account not of the swiftness but the ferocity of the game. As he runs slowly and leaves a strong scent behind him, defending himself against his pursuers, and often wounding them dangerously, this sport requires dogs of a strong and heavy kind. Mastiffs, with very little training, are sufficient. When the boar is roused, he moves forward at a slow pace, and often turns and waits till the dogs come up, and offers to attack them. The wary animals, however, sensible of the ferocity of their foe, decline the combat. The boar again runs off slowly, and the dogs renew the pursuit, which is thus continued at many intervals. At length, when he begins to be fatigued, the dogs rush upon him from behind. Many of those which are young and inexperienced lose

their lives in the attack; but the older and better trained keep him at bay till the hunters come up and dispatch him with the lances and spears with which they are armed.

The hunting of the wild hog is also a favourite diversion in India. Captain Blakiston, incidentally mentioning the abundance of game in Berar, says that this animal, "attracted by the numerous plantations of sugar-cane, and fattened on this luxuriant food, afforded excellent sport and a most dainty feast: for, in my opinion, no meat can be compared to that of a fat full-grown wild hog. Not being prepared with the requisite gearing for this sport, we were compelled to have recourse to weapons hastily prepared for the occasion. The bayonet, at the end of a pole, often supplied the place of a spear, and the haunches of this noble animal, which might have excited the appetite even of an alderman, smoked from right to left of the camp. The

RHINOCEROS.

sport, however, is not without its danger, particularly to the horse, which frequently has his legs cut and his bowels torn open by the tusks of this animal, which is a formidable opponent."

Africa also produces a fierce race of the wild hog, which is distinguished by a pair of large lobes, or wattles, beneath the eyes. The tusks of the upper jaw bend upwards in a semicircular form towards the forehead. When attacked by a man on horseback, it will rush upon the horse with great force and swiftness, breaking his legs, and often destroying both him and his rider.

THE RHINOCEROS.

Some naturalists enumerate five species of the rhinoceros, while others, founding their divisions on the number of horns, reckon but

two, the one-horned and the two-horned rhinoceros.

The single-horned rhinoceros is the largest of terrestrial animals, excepting the elephant, and is surpassed in strength and power by none. He is generally about twelve feet long from the snout to the insertion of the tail, and the circumference of the body is nearly equal to the length. None of the quadrupeds, perhaps, with the exception of the hippopotamus, has so unwieldly and uncouth an appearance as the rhinoceros. The general outline of the trunk is very like that of the hog genus. The head is large and long; the ears pretty large, upright, and pointed; the eyes very small and set far back, and from the nose rises a horn, slightly curved, sharp-pointed, and very strong, which is sometimes three feet in length, and eighteen inches round at the base. The upper lip hangs over the lower, in the form of a lengthened lip, which appears to an-

swer the purpose of a small proboscis, and, being extremely pliable, is used by the animal for laying hold of the shoots of trees and vegetables, and pulling them to the mouth. The naked skin of the trunk falls into several deep folds or plaits: there is one of these about the neck, another passes over the shoulders to the fore-legs, bearing a sort of resemblanee to a shield, and a third from the hind part of the baek to the thighs. The belly is pendulous like that of a hog. The legs are very short, strong, and thiek, and eaeh furnished with three massive toes. The tail is slender, flattened at the end, and eovered on the sides with stiff, thick, black hairs.

This animal is a native of the same eountries as the elephant. He frequents shady woods, and eool sequestered spots near water, where he delights to roll in the mud, living entirely on vegetables. A formidable and often suceessful antagonist of the elephant,

whom he gores with his powerful horn, either in the flank or the belly, and by nature protected by the thickness of his hide from the claws even of the lion, the rhinoceros is not slow to turn upon his hunters; but he rarely attacks other animals when unmolested. When excited, he employs his natural powers and astonishing strength wildly, but awkwardly. Mr. Burchell indeed tells us, that the African hunters who have the courage to await his furious charge with vigilance and coolness, may contrive to slip aside and even to reload their guns before the exasperated animal can regain his view of them—an object which he accomplishes slowly and with difficulty.

The temper of the rhinoceros, like that of the hog, which he resembles in many points of his structure and appetite, is vicious and uncertain. His courage seems to be the exertion of the lowest degree of brute instinct. Like the hog, too, he possesses an exquisitely keen

scent, and his pursuers must approach him against the wind to get even within musket-shot. He ravenously devours all sorts of sweet fruits and sugar-canes that he can get at; and to the husbandman his motions are as destructive as his appetite. After bathing in the day-time in the rivers, or wallowing in the mud upon their banks, he destroys at night by his monstrous bulk and with his clumsy feet all the products of cultivation through which his passage lies.

The hide of the rhinoceros is said to be so hard as to turn the sharpest sword, and to be impenetrable even by musket-balls, excepting under the belly. For this reason the hunters are obliged to follow the animal at a distance, and to watch it until it lies down to sleep, before they can gain an opportunity of wounding it in the vulnerable part. The flesh is eaten by the natives of the countries which the rhinoceros inhabits; the skin is employed

for making shields; and in some provinces of India almost every part of the animal is used medicinally. The horn is appropriated to many purposes, especially to making drinking-cups for the Indian princes, from a superstitious notion that if any poisonous liquor is poured into them, it will effervesce and boil over.

The rhinoceros has been sometimes domesticated and brought into the field of battle by the Asiatics; but he is so unmanageable that his presence is a disadvantage rather than a benefit, for when wounded he is as likely to turn on his masters as on the enemy.

In 1743 Dr. Parsons published a detailed account of one of these animals that was brought from Bengal to England. Though he was only two years old the expense of his food and voyage amounted to nearly one thousand pounds sterling. He was gentle in disposition, and would suffer any part of his

body to be touched without shewing displeasure; but when hungry, or struck, he became fierce and mischievous, and an immediate supply of food was the only method of pacifying him.

Another rhinoceros brought to England in 1790 was purchased for the menageric, Exeter Change. The docility of this animal was equal to that of a tolerably tractable pig. He would obey his master's orders, walk about his room to exhibit himself, and allow his visiters to pat him. His voice bore some resemblance to the bleating of a calf, and was commonly excited when he perceived persons with fruit or any other favourite food in their hands. His usual food consisted of clover, ship-biscuit, and a prodigious quantity of greens, with ten to fifteen pailfuls of water a day; and he was extremely fond of sweet wines. In October 1792 this animal, when rising suddenly, dislocated one of his fore-legs, and this acci-

dent produced an inflammation, which caused his death, about nine months afterwards, in a caravan near Portsmouth.

The two-horned rhinoceros, in size and in many of its general habits, closely resembles the species already described; but it differs considerably in external appearance. The skin, instead of the regular armour-like folds which mark the other, has only a slight wrinkle on the shoulders and on the hind parts, so as to appear almost smooth, though the surface, especially in the larger individuals, is rough and tuberculated. Its chief distinction, however, consists in the two horns, one smaller than the other, and placed higher up on the front. Sparrman has observed that these horns are not attached to the skull-bone, but fixed to the nose by a strong apparatus of muscles and tendons, so that the animal can fix or relax them at pleasure: thus they are said to be loose when the animal is quiet, but

to beeome fixed and immoveable when he is enraged.

This species is found in various parts of Afriea, and Bruee has given us an aeeount of it whieh is highly interesting. He says that besides the trees capable of most resistanee there are in the vast forests within the rains trees of a softer eonsistence, and of a very succulent quality, whieh seem to be destined for his prineipal food. For the purpose of reaehing the higher branches, his upper lip is capable of being lengthened out so as to increase his power of laying hold with it in the same manner as the elephant does with his trunk. With this lip and the assistance of his tongue, he pulls down the upper braneheS, whieh have most leaves, and devours them first. After he has stripped the tree of its braneheS, he does not abandon it, but, plaeing his snout as low on the trunk as he finds his horns will enter, he rips up the body of the

tree, and reduces it to thin pieces, like so many laths; and when he has thus prepared it, he takes up as much of it as he can in his monstrous jaws, and twists it round with as much ease as an ox would do a root of celery.

When pursued and in fear he displays an astonishing degree of swiftness, considering the unwieldiness of his body, his great weight before, and the shortness of his legs: but it is not true that in a plain he can outstrip the horse; for though a horse can seldom come up with him, this is owing to his cunning, and not to his speed. He makes constantly from wood to wood, and forces himself into the thickest part of them. The trees that are dead or dry are broken down, as with a cannon-shot, and fall around him in all directions. Others that are more pliable, greener, and full of sap, are bent back by his weight; and after he has passed, recovering their natural position, they often sweep the incautious pur-

suer and his horse to the ground, or dash them furiously against the surrounding trees.

The eyes of the rhinoceros are very small; he seldom turns his head, and therefore sees nothing but what is before him. To this he owes his death; for, if the horse of the hunter can but get before him, his pride and fury seem to inspire him with the determination to escape only by victory over his enemy. He stands for a moment at bay, and then starts forward at the horse like a wild boar, which in his action he very much resembles. The horse easily avoids him by turning aside. This is the critical moment. A man armed with a sword drops from behind the principal horseman, and, unseen by the rhinoceros, who is looking round for the horse, he gives him a cut across the tendon of the heel, which renders him incapable of further flight or resistance.

The great consumption of food and water

made by the rhinoceros, necessarily confines him to such countries where both abound: but it is not for drink alone that he frequents wet and marshy places, but for a defence against the weakest of all his foes. This is a fly, to prevent the incessant persecution of which he resorts to this stratagem. At night, when the fly is at rest, the rhinoceros, rolling in the mud, clothes himself with a kind of case, which protects him from his winged enemy for the following day. The wrinkles and folds of his skin serve to keep this plaster of mud firm upon him, excepting about the hips, legs, and shoulders, where by motion it cracks and falls off, leaving those parts exposed to the attacks of the fly. The consequent itching and pain impel him to rub himself against the roughest trees, and this is supposed to be one cause of the numerous pustules or tubercles with which he is covered. He seems to derive great pleasure from rubbing himself, and dur-

ing this action he groans and grunts so loud as to be heard at a considerable distance. The hunters, guided by the noise, steal secretly upon him while lying on the ground, and wound him with their javelins, mostly in the belly, which is the most vulnerable part. The skin of this species is by no means so hard and impenetrable as it has been represented. He is easily killed by javelins, which enter many feet into his body, or by arrows; and a musket-ball will go through him, if not obstructed by a bone.

The following account of a rhinoceros hunt, by Mr. Bruce, shows the amazing strength of the animal, even after being severely wounded. "We were on horseback by the dawn of day, in search of the rhinoceros, many of which we had heard making a very deep groan and cry as the morning approached. Several of the agageers (hunters) then joined us; and, after we had searched about an hour in the very

thickest part of the wood, one of them rushed out with great violence, crossing the plain towards a wood of canes two miles distant. But though he ran, or rather trotted, with surprising speed, considering his bulk, he was in a very little time transfixed with thirty or forty javelins, which so confounded him, that he left his purpose of going to the wood, and ran into a deep hole or ravine without outlet, breaking above a dozen javelins as he entered. Here we thought that he was caught as in a trap, for he had scarcely room to turn; when a servant who had a gun, standing directly over him, fired at his head, and the animal immediately fell, to all appearance dead. All those on foot now jumped in with their knives to cut him up; but the moment they began, the animal recovered so far as to rise upon his knees. Happy then was the man that escaped first; and had not one of the agageers in the ravine cut the sinews of the hind leg as he

Hippopotamus

Tapir

London Pub.d as the Act directs, by J. Harris S.t Pauls Church Y.d Dec.r 1833

was retreating, there would have been a very sorrowful account of the foot hunters that day. After having dispatched him, I was curious to see what wound the shot had given to operate so violently on so huge an animal, and I doubted not it was in the brain; but it had struck him nowhere but in one of the horns, of which it had carried off about an inch, and thus occasioned a concussion, which had stunned him for a minute, till the bleeding had recovered him."

THE HIPPOPOTAMUS.

Of all the animals classed under the order of Pachydermata, or thick-skinned, the hippopotamus is the most clumsy and unwieldy, and perhaps of all the quadrupeds, strictly speaking, he has the largest mouth. His enormous and unshapely head is thick and

square; the muzzle very large. The trunk is immensely thiek, and weighs in some full grown animals not less than three thousand five hundred pounds. His eyes are round, not very large, but rather prominent; his ears extremely small, and rather well shaped; his legs short and terminated with four toes. The general eolour of the animal has been aptly compared with a light tint of India ink.

The hippopotamus subsists on grasses and other vegetable productions; but, owing to his natural shyness, except when hunger impels him to range at midnight through the brakes and forests on the borders of the rivers whieh he frequents, but little is known of his habits and propensities. However, so much we know, that, like the elephant, the rhinoeeros, and the tapir, he wallows in the mud deposited on the banks of rivers, and in this way obtains a transient relief from the various inseets and vermin by whieh he is infested.

The adult measures from ten to eleven feet in length, by four or five in height. Bruee makes mention of hippopotami as existing in the late Tzana, exeeeding twenty feet in length; and Goldsmith relates that an Italian surgeon, having procured one from the Nile, found it to measure seventeen feet in length, scven in height, and fifteen in circumferenee. Aecording to more recent writers, these statements must be exaggerated. The largest ever killed by Colonel Gordon, an experieneed hippopotamist, did not exceed eleven feet eight inehes. Le Vaillant shot one measuring from the muzzlc to the insertion of the tail, ten feet seven inehes, and eight feet in eireumferenee, but from the small size of the tusks he supposed it to be young. Even of these redueed dimensions, he must be an adversary with whieh seareely any other animal would wish to eontend. Notwithstanding his peaceful habits, however, he is not less the

terror of the African husbandman, who too often finds his crops devoured, and his lately sown fields trodden into a mass of unproductive soil by the midnight invasion of a few hippopotami.

The thickness of the hide of this animal is such as to render it almost impenetrable to fire-arms, so that it is very seldom wounded in any other part but the head, which may indeed in some measure be owing to his scarcely ever venturing by day to lift his head above water, in which he habitually resides. The nostrils of the animal are provided with cartilage and muscles, which enable him to close them when in the water, and from the depth of their insertions impart additional power to the terrible upper jaw.

There exists at present but one species of hippopotamus, though, from bones and teeth recently discovered, naturalists have inferred that in the earlier ages of the world there

must have been four other species. It has four cutting teeth in each jaw; those in the lower jaw straight and pointing forward nearly horizontally, the two middle ones being the longest. The canine teeth or tusks are four in number; those in the upper jaw short, those in the lower sometimes as long as two feet, and weighing six pounds. These are in great request among traders, and dentists in particular, as they furnish a material for artificial teeth which does not turn yellow like those made from the elephant's tusk.

From his size, manners, food, and haunts, it has been concluded by most commentators that this animal is the behemoth of the Scriptures. He inhabits all the large rivers of Africa, from the Niger to the Cape of Good Hope, but is not found in any of those that fall into the Mediterranean, excepting the Nile, and there, whether owing to the increase of his natural enemies, or a deficiency in the

supply of his food, he is now seldom seen below the cataracts. It was long pretended that he devoured great quantities of fish, but a better acquaintance with his structure has proved that he subsists wholly upon vegetable substances. The stomach, like that of the ruminating animals, is divided into several pouches.

Dr. Rüppel, a German traveller, gives the following account of the mode of hunting the hippopotamus in Dongola :—

The harpoon with which the natives attack this animal terminates in a flat oval piece of iron, made very sharp on three fourths of its outer edge. To the upper part of this iron is attached one end of a long stout cord, the other extremity of which is tied to a thick piece of light wood. The hunters attack the animal either by day or by night, but they prefer daylight, because then it is easier for them to escape the attacks of their furious enemy. One part of the rope, with the shaft

of the harpoon, the hunter takes in his right hand; in his left he holds the rest of the rope with the pieee of wood. Thus armed, he eautiously approaehes the animal as he lies asleep in the day on some small island in the river, or he looks for him at night when he is likely to eome out of the water to graze in the cornfields. When the huntsman is about seven paees from the beast, he throws the spear with all his might, and if he is a good marksman the iron pierees through the thick hide, burying itself in the flesh deeper than the barbed point. The animal generally plunges into the water, and, though the shaft of the harpoon may be broken, the piece of wood attaehed to the iron floats on the surfaee and shews what direetion he takes. The huntsman is in great danger if the hippopotamus spies him before he can throw his spear; for the beast then springs forward with the utmost fury, and crushes him at once in his wide

mouth, an instance of which occurred during the traveller's residence in the country. As soon as the animal is fairly struck, the huntsmen in their small canoes cautiously approach the floating wood; and, having fastened a rope to it, they hasten with the other end to their companions in a large boat. These pull the rope, when the monster, irritated by the pain, will sometimes seize the boat in his teeth and crush or overturn it. Meanwhile the assailants are not idle: four or five more harpoons are plunged into him; every effort is made to draw the beast close to the boat, and to divide the suspensory ligament, which holds the head in its place, with a sharp weapon, or to pierce his skull. The body of a full-grown animal being too bulky to be pulled out of the water without a great number of hands, they generally cut him up in the water and bring the pieces to land.

In Dongola not more than one or two of

these animals are killed in a year. When young, the flesh is very good, but when full-grown, it is in general too fat. The hide makes excellent whips, each furnishing from four to five hundred. No use is made of the teeth.

"One of the hippopotami which we killed," continues Dr. Rüppel, "was an old fellow of enormous size, measuring thirteen feet and a half, French measure, from the nose to the extremity of the tail: his incisive teeth were twenty-six French inches in length. We were engaged with him for four good hours by night, and were very near losing our large boat, and probably our lives too, owing to the fury of the animal. As soon as he spied the hunters in the canoe, whose business it was to fasten the long rope to the float, he dashed at them with all his might, dragged the canoe with him under water, and smashed it in pieces. The two men with difficulty escaped.

Of twenty-five musket-balls aimed at the head from a distance of about five feet, only one pierced the skin and the bones of the nose: at each snort the animal spouted forth large streams of blood on the boat. The rest of the balls stuck in the thick hide. At last we availed ourselves of a swivel; but it was not till we had discharged five balls from it at the distance of a few feet, and had done severe injury to the head and body, that the monster was dispatched. The darkness of the night increased the danger of the contest, for the gigantic animal tossed our boat about in the stream at his pleasure; and it was fortunate indeed for us that he gave up the struggle at the moment he did, for he had carried us into a complete labyrinth of rocks, which, amidst the confusion, had not been observed by our crew."

For want of proper weapons the natives cannot kill a hippopotamus of this size: all

they can do to drive him from their fields is to make a noise in the night and to keep up fires at different spots. These animals, from their voracity, are a scourge to a whole district; and in some places they are so bold that they will not quit the fields which they are laying waste, till a great number of men come out with poles and loud cries to drive them away.

From Captain Owen's recently published narrative of his voyage undertaken for surveying certain parts of the coast of Africa, we learn that his companions had several encounters with the hippopotamus. A boat was sent up the river Mapoota on the east coast of that continent, where this animal abounds. On one occasion her crew fired a volley of iron grape-shot from their two-pounder, among five or six hippopotami, at the distance of forty yards; yet not one was killed, although their hides and flesh were completely furrowed.

One of the wounded sufferers shortly afterwards rushed to the woods, stamping and foaming with pain and rage, but soon slackened his pace, and ultimately stopped from loss of blood. Nothing can convey an idea of the tortured monster's roars, the woods and country resounding for miles with the hideous sound. A party set out in pursuit of him, but on their approach, he again took to the water. This was the only instance in which one of these animals had been known to take to the land after being wounded; their general habit is to get into a hole in the bed of the river, there to die: and, as the natives informed our countrymen, his companions will there surround their expiring comrade, and not allow him to rise to the surface. This statement seems to be confirmed by the circumstance that their carcases are never found till they are in a state of putrefaction.

As all attempts to take a hippopotamus had

failed, on the last visit of the ship to Delagoa Bay, three parties set out for the chase, and were conveyed up Dundas river; and, having reached that part of it where the animals were most abundant, they commenced their pursuit. "The scene," says Captain Owen, "was novel and imposing; a body of men armed at all points with muskets, harpoons, and lances, walking on the shallows of the river with nothing but the moon to light them, all hallooing and driving their huge prey before them, who, blowing, snorting, and bellowing, were floundering through the mud from the numerous holes which they had made in the bottom for their retreat, but from which the hunters' lances soon expelled them, until, ultimately driven upon dry ground, where a running contest commenced, the beast sometimes being pursued and at others pursuing. This lasted some time, but not an animal had the party secured, dead or alive." As low

water was considered the best for the pursuit of their game, they suspended their sport when the flood set in. "At low water the following morning, one party formed a line aeross one of the shallows, when the depth was not above two feet, while the boats went up the river and aetually drove the animals down the stream, another party having lined the banks to prevent their taking to the woods and reeds. These, whenever the monstrous but timid animals attempted to pass them, set up a shout, which, in most instances, proved sufficient to turn them back into the water; when, having eolleeted a great number on one shallow bank of sand, the whole of the hunters from all sides eommeneed a regular eannonade upon the astonished brutes. Unwieldy as they appeared, still they displayed mueh aetivity in their efforts to escape the uneeasing fire to whieh they were exposed. The one-pound gun oeeasionally furrowed the

thick hide of some, while others were perpetually assailed by a shower of pewter musket-balls. One, a cub, was nearly caught uninjured in attempting to follow its mother, who, galled to desperation, was endeavouring to escape through the land party; but, as soon as the affectionate brute perceived the danger of her offspring, she rushed furiously at her enemies, when they in their turn were obliged to retreat. Again the hunters contrived to separate them, and had almost secured the prize, when the angry mother, regardless of the close fire, succeeded in rescuing and bearing it off, although herself in a state of great exhaustion." With the flood this sport ended.

From the number of shot that were discharged and apparently took effect, the party had no doubt that some of the animals were killed. The natives, a great number of whom attended them during the hunt, promised to

inform them if any bodies should float on shore: but it was soon found that no reliance was to be placed on the word of these people, when a savoury repast might be gained by forfeiting it. Our countrymen discovered the head of a hippopotamus, the body of which had been conveyed away and eaten. They presently came upon a party of natives cutting up the body of another, which they immediately took possession of and conveyed to the schooner, to the no small disappointment of about three hundred Blacks on the opposite side of the river. In this animal three musket-balls had penetrated through the hide, which was an inch and a half thick, and lodged between the ribs. The beast was of small size, the head, without the tongue, weighing only two hundred and six pounds.

THE TAPIR.

The tapir is generally considered by naturalists as the largest land animal of South America. In stature it is smaller than a very small ox. In the general figure of the head and body it resembles the hog; but the upper lip is prolonged into a snout-like proboscis, nearly a foot in length, extremely moveable, in which resides the organ of smell, as in the elephant, and which the animal extends to grasp fruits and branches of trees. This species of trunk is parted at the end by the two nostrils. The body is covered with hair of a dirty brown colour, longer than that of the horse or ass, but not so long or stiff as the hog's; a mane very little longer than the rest of the hair extending from the top of the head to the shoulders. From the appearance

of the stomach, the tapir was held by naturalists to be a ruminating animal: but on the dissection of one which had been brought alive to Paris, it was found that the stomach, though large and contracted in two places, was still a single uniform stomach. The extreme length of the tapir is about six feet, and its height five. It commonly sits on its rump like a dog, takes the water readily, and swims well.

When caught young, the tapir may be tamed very soon and easily, when it will go about the house and not seek, even when full grown, any greater degree of liberty. It will suffer any one to touch or caress it, without manifesting any peculiar partiality. It never bites, but when annoyed merely makes a sharp hissing noise, very disproportioned to its size. In its domestic state it appears to be more gluttonous than the hog itself, for it will not only eat flesh raw or cooked, but also rags

of silk or worsted, and even gnaw a stick or cork.

The natural defence of the tapir against the large American beasts of prey seems to be to rush into the thickest part of the wood, through which it penetrates with great facility, while its pursuer soon becomes wearied, if not injured. According to Azara, it forces its way through brakes, thickets, and underwood, in preference to keeping the open paths; and, having an acute sight, especially in twilight, and a fine hearing, it contrives by these means to avoid its natural enemies. It is hunted by dogs, and is sometimes taken by the hunters lying in ambush among the gourds and water-melons, which it comes out at night to feed upon. It has never been observed to fall immediately when shot. Azara relates that he saw one, which, after receiving two balls through his heart, ran upwards of two hundred paces.

The woods and rivers of South America, from the isthmus of Darien to the river of Amazons, are the favourite resort of the tapir, and it selects the most umbragcous places on their banks for its retreat. It is a solitary animal, sleeps during the day, and goes out at night in quest of food. Like the hippopotamus, it greedily seeks grass, sugar-cane, gourds, and water-melons, and does great mischief in the country over which its nightly incursions are made. It resembles the hippopotamus also in its timidity, and in taking when disturbed to the water, swimming about with great ease, plunging to the bottom, and walking about there without inconvenience. Mild and inoffensive, it runs away at the approach of any kind of danger, and avoids all hostilities with other animals.

The Indians of Brazil make bucklers of the skin of the tapir, which, when dried, is very thick and hard, and will effectually resist an

arrow. They also eat its flesh, which, according to them, is of excellent flavour.

THE ELEPHANT.

As the elephant surpasses all other terrestrial animals in magnitude and strength, so is he also more gentle and tractable than almost any other, and in sagacity and docility he is not excelled by any, excepting perhaps the dog.

The usual height of this animal is nine or ten feet, though he is said to be sometimes found of the height of twelve feet. His body is of a very clumsy form; the head large; the back much arched; the legs short and extremely thick. His eyes are very small; his ears large, pendulous, and irregularly waved about the edges. The trunk attached to the muzzle of the elephant is one of the most

wonderful instruments that Nature has bestowed on any of her creatures, being little inferior in flexibility and utility even to the hand of man. This organ, composed of a number of flexible rings, forms a double tube, ending in a circular tip, somewhat flattened, and furnished with a projecting point or fleshy moveable hook, like a finger, of exquisite sensibility, and so pliable that by means of it the animal can pick up almost the smallest objects from the ground. This trunk is the principal organ of breathing to the elephant, terminating in two orifices which are the nostrils: by means of it he supplies himself with food and drink, laying hold of the one and sucking up the other with this tube and conveying it to his mouth. The feet terminate in five rounded toes; the tail is of moderate length; tipped by a few scattered hairs, very thick, and of a black colour. The general colour of the skin is a dusky or blackish brown; but in some

parts of India elephants are found of a white colour, though this is a rare occurrence.

The male elephant is provided with tusks corresponding with the canine teeth in other quadrupeds. The female either very rarely has tusks, or they are much smaller than in the male. These tusks vary in size, according to the species and age of the animal; some have been seen ten feet long, and tusks brought to the India House have weighed one hundred and fifty pounds each, though those of the Indian elephants are more commonly from fifty to seventy pounds. It is scarcely necessary to inform the reader that the tusks of the elephant furnish us with that valuable material ivory.

There are two species of elephants, the Asiatic and the African. The former is found in all the southern countries of Asia; in Cochinchina, Siam, Pegu, Ava, Hindostan, and the adjacent islands, particularly Ceylon. The

African elephant, which is easily distinguished from the Asiatic by his rounder head, his convex forehead, his enormous ears, and his longer tusks, inhabits all the countries from the Niger and the Senegal to the Cape of Good Hope, and abounds in the forests of the interior. Both species live in large herds, reigning the almost exclusive possessors of immense forests and marshy plains, covered with long grass; repelling the attacks of every other quadruped by their great strength and their union; and diminished in number or reduced to a state of captivity by man alone.

The ordinary food of the elephant consists of herbage, roots, leaves, and the tender branches of trees, which he breaks off with his trunk. It is astonishing with what facility elephants break down, not merely branches, but even trees of some size. At first they bear upon the stem with their shoulder; if it resists, they place one foot on it and rock it,

and then two, raising themselves on their hind legs, give the whole force of their bodies to break it, which they generally do at last. They will also tear trees out of the ground and place them in an inverted position, that they may be able to browse at their case on the soft and juicy roots, which form a favourite part of their food. Mr. Pringle observed that, when the trees were of considerable size, the elephant had employed one of his tusks exactly as we should a crow-bar, thrusting it under the roots to loosen their hold of the earth, before he could tear them up with his proboscis.

When an elephant discovers a plentiful pasture, he calls his companions together to share the feast; for these animals feed together in considerable herds, and, as they require a great quantity of fodder, they frequently shift their quarters. When they forage near the haunts of men, they usually march in troops, the

oldest being foremost; the females carrying the young ones firmly grasped in their trunks in the centre; and the middle-aged bringing up the rear: but in extensive desert plains they are less guarded. In the cultivated fields they often make great havoc, destroying with their enormous feet more than they consume as food. They are fond of cool shady places, where they are sheltered from the mid-day sun, and love to bathe themselves with water, which they do by pouring it over their bodies with their trunks. It is said that they frequently roll in the mud, probably, like the rhinoceros, for the purpose of sheathing their skins against the persecution of insects. The elephant resorts to other expedients to rid himself of these enemies; he strikes them with his tail, his ears, or his trunk; he contracts his skin and crushes them between its wrinkles; with his trunk he breaks down boughs of trees and brushes them away; and when

all these expedients fail, he collects dust with his proboscis, and sprinkles it over the most tender parts of his body. He has been observed to dust himself in this manner several times a day, especially after bathing.

The elephant swims with ease, and crosses the largest rivers as well as the smallest brooks in quest of food. It is a matter of indifference to him that his body is completely immersed in water, for, as long as he can raise the tip of his trunk to the surface, so as to breathe the external air, he sustains no inconvenience. Whole troops of them will thus cross rivers and straits, the largest male elephants leading the way. When they arrive at the opposite shore, they try whether the landing place is good; if so, they make a signal with their trunk; some more of the old elephants then swim across, the young following, with their trunks locked together, and the rest of the old ones bring up the rear.

The chief care of the elephant, whether in a state of nature or domesticated, is to put his trunk out of harm, when any danger presents itself. Hence he is extremely cautious of using it as a weapon, rarely striking with it, though he will frequently employ it to throw clods and stones at any object of dislike. In this manner he will frequently attack hogs, hurling such missiles with great force and precision. If he is attacked by any wild animal, he carries his trunk as high as he can in the air, and if this delicate organ is injured in the slightest degree, he becomes wild with rage and terror. The instinct with which the creature preserves this precious instrument is only proportioned to its essential importance. Captain Williamson saw an elephant, whose trunk had been cut with a bill-hook, and, though the wound was perfectly healed, the animal was quite helpless, incapable of supplying himself with food, and even of travelling

without danger. He was fed with bundles of grass, which were put into his mouth; and, had he been in a state of nature, he must have perished.

If the elephant rarely uses his trunk as a weapon, Nature has given him formidable means of offence and defence against his enemies. His tusks enable him not only to clear his way through the thick forests which he inhabits by rooting up small trees and tearing down cross branches, in rendering which service they effectually protect his face and proboscis from injury; but they qualify him to ward off the attacks of the wily tiger and the furious rhinoceros, often securing him the victory by one blow, which transfixes the assailant to the earth.

It might be supposed that the voice of so large and powerful an animal would be of corresponding depth and loudness; but a shrill weak cry is his usual note of fear or surprise.

The rudest mode of taking the elephant is by digging a pit in his native forests, and covering it with loose boards and with boughs and grass upon which he feeds. Towards this pit the herd is seduced by a tame elephant, when the leading pursuer falls into the trap, and his companions retire in great alarm. From the instinctive caution, however, of this animal not to tread on insecure ground, this method cannot be very successful. The mode of getting elephants out of such pits, as described by Williamson, though simple, is extremely curious. When the animal has become sufficiently tractable to be released, large bundles of jungle-grass being thrown in to him, he is gradually raised so near to the surface as to be enabled to step out. A very curious anecdote illustrative of the sagacity which enables this animal to avail himself of the means of escape from a disagreeable confinement is related in Griffiths's translation of Cuvier's 'Animal Kingdom.'

At the siege of Bhurtpore, in 1805, the British army had been for a long time before the city, when, on the approach of the dry season, the ponds or tanks were exhausted, and no more water was left for the use of the troops, the camp-followers and cattle, than the immense wells of the country would furnish. Hence no little struggle and confusion took place at the wells for the priority in procuring the requisite supply. On one occasion two elephant-drivers, each with his elephant, one remarkably large and strong, the other comparatively small and weak, were at the well together. The small elephant had been furnished by his master with a bucket, which he carried at the end of his trunk; but the larger being unprovided with the necessary utensil, either spontaneously, or by the desire of his keeper, seized the bucket, and easily wrested it from his less powerful fellow-servant. The latter obviously felt the insult, though he

was too sensible of his own inferiority openly to resent it: but great squabbling and abuse ensued between the keepers. At length, the weaker animal, watching his opportunity, when the other was standing with his side to the well, stepped backward a few paces in a very quiet manner, and then rushing forward with all his might, drove his head against the side of the other, and fairly tumbled him into the well. For the sake of the supply of water, it became imperatively necessary to extricate the unwieldy brute; but, as the surface of the water was nearly twenty feet below the common level, it was evident that this object could not be accomplished by main force, at least without injuring him. There were many feet of water beneath the elephant, who, floating with ease on the surface, and pleased with his cool retreat, showed little disposition to exert what means he might possess in himself for his deli-

veranee. At length it occured to the elephant-keeper, that a sufficient number of the faseines (which may be compared with bundles of wood) employed in the siege, might be lowered into the well to make a pile, which might be raised to the top, if the animal could be instructed to lay them in regular succession under his feet. This lesson therefore he had first to teach the elephant, who soon comprehended what was required, and began quickly to place each faseine as it was lowered to him, until he was enabled to stand upon them. By this time, however, the cunning brute, who had enjoyed the refreshing coolness of his situation, finding himself raised above the water, refused to work any longer, and all the threats of his keeper could not induce him to place another faseine. The man then opposed cunning to cunning; he began to caress and praise the elephant; and what he could not effect by threats, he accomplished by the promise of

plenty of rack. Incited by this prospect of reward, the animal again fell to work, and raised himself considerably higher, until, by a partial removal of the masonry round the top of the well, he was enabled to step out. The whole affair occupied about fourteen hours.

In some parts of India where the elephants are of small size, they are often caught by the natives with a slip-knot, used somewhat in the manner of the South American lasso, the hunter being seated on a trained elephant, round whose body the cord is fastened. This is thrown over the neck of the wild animal: another hunter comes up, and repeats the process; and thus the creature is held by the two tame elephants to which the ropes are attached till his strength is exhausted.

It is remarkable that, in every mode of capturing the wild elephant, man avails himself of the docility of individuals of the same species, whom his ingenuity has subdued. From circum-

stances which have not been explained, large male elephants are sometimes found apart from the herd. These, being the finest animals, and therefore best adapted for sale, are soon marked by the hunters. They follow them cautiously day and night, with two, or sometimes four trained females, called koomkies. These gradually move towards the stranger, grazing quietly as if, like him, they were inhabitants of the forest. The drivers remain concealed at a little distance, while the koomkies surround the goondah, as this sort of elephant is called. If he appears to be pleased with his new companions, and abandons himself to their caresses, the hunters cautiously creep under him and fasten his fore-legs with a strong rope. It is said that the wily females will not only divert his attention from their mahouts, or drivers, but absolutely assist them in fastening the cords. The hind legs being secured in a similar manner, the hunters either fasten him at

once by a very strong rope to a large tree, if the situation admits of it, or leave him to himself. When the females quit him he discovers his situation, and attempts to retreat to the forest: but he moves with difficulty, on account of the ropes lashed round his limbs; besides which, other long ropes are left trailing behind him, and these the mahouts, watching an opportunity, secure to a tree of sufficient strength. The captive now becomes furious, throwing himself down, and ploughing up the ground with his tusks. Should he break the ropes and escape into the forests, the hunters dare not pursue him for fear of the other wild elephants; which, it is said, are ungenerous enough to attack him themselves when in this helpless state. If, on the other hand, he is adequately bound, he soon becomes exhausted with his own rage. He is then left to the further operation of hunger, till he is sufficiently subdued to be conducted, under the es-

cort of his perfidious friends to the place of his destination, where, treated with mingled kindness and severity, he soon becomes reconciled to his lot. It is remarkable that the goondah, even in the most violent paroxysms of his rage, never secks to be revenged on the treacherous koomkics who have led him into the snare. On the contrary, he appears happy in their company, and in caressing them to console himself for the loss of his liberty.

The method of hunting a troop of wild elephants in Hindostan, is thus described in a letter, dated Coimbatore, April 1819.

About three thousand people being assembled at the place of rendezvous, on thc skirts of the jungle, and the haunts of the clephants being ascertained, a semircircular line of people, provided with fire-arms and tom-toms, and extending several milcs, was then formed round thcm, each end of the line reaching to a chain of hills, the passes through which

had been occupied by parties of men armed with matchlocks. The object of this line was to drive the elephants towards a particular narrow place, surrounded by steep hills, where there was abundance of food and water for several days. This, however, was not an easy task, as the animals frequently attempted to force the line: but it gradually closed on them, halting at night, and keeping up large fires to prevent their breaking through. At length, after ten or twelve days' labour, the people succeeded in driving them into the intended place, when they were closely surrounded and hemmed in for several days. Meanwhile several hundred persons were busily employed at the outlet in digging a deep ditch, enclosing about a quarter of a mile of ground, leaving only the space of a few yards, as an entrance, untouched. Two ditches were cut from the entrance to a hill on one side, and to a rock on the other, to

prevent the elephants from passing the enclosure. On the outside of the ditch was placed a fence of matted branches, about six feet high, to give it an impassable appearance, and green branches and bushes were also stuck about the entrance to conceal the ditch, and to make it look as much as possible like the jungle. This done, the people were removed from that place, and those at the other end began firing, shouting, and making as much noise as possible with drums and horns, which so intimidated the elephants that they made the best of their way to the opposite end: and the people, following them close, drove them, with the aid of a few rockets, straight into the enclosure, when the ditch was completed by the digging away of the remaining space. People were immediately posted round the outside of the ditch, armed with long spears and matchlocks, to repel any attempt which the prisoners might make to cross it.

On the following day eight female elephants were introduced into the enclosure, the mahouts, or keepers, being couched close on their necks, covered with dark cloths. The object of the tame animals was to separate one of the wild from the herd, and to surround him, which they did precisely in the manner already described. In this way twenty-three elephants were taken in six days, without the slightest accident to the persons employed. The sagacity of the tame elephants; the address and courage of the mahouts in approaching the wild ones; the anxious moments that passed from the cast of the first rope until the last band was tied; the rage of the animals on finding themselves entrapped; and their astonishing exertions to regain their liberty, formed altogether a scene of extraordinary novelty and interest.

The following adventure with an elephant in Southern Africa, is related by Captain

Owen, as having befallen a party of his crew, during a hippopotamus hunt on the river Dundas, in Delagoa Bay. On their return to the schooner, along the banks of the river, passing near a spot where a hippopotamus had been seen sporting in the water, a loud rustling was heard among the reeds, as if the animal had retreated thither. Messrs. Arlett and Barette, with two of the seamen, immediately followed, with the intention of driving him out. The latter, eager in the pursuit, was a little in advance; and, owing to the thickness of the reeds, he was close to the animal before he was aware that, instead of an hippopotamus, he was almost stumbling upon an enormous elephant. The animal, irritated at the intrusion, waved his trunk in the air, and, as soon as Lieut. Arlett had exclaimed "Here he is!" reared upon his hind legs, turned short round, and, with a shrill passionate cry, rushed after him, bearing down the opposing reeds. For a

short time the lieutenant had hopes of escaping his pursuer, as the animal perceived one of the seamen mounted on a tree about twenty feet high and three in circumference, menacing him by voiee and gestures. While he was preparing to fire, the elephant turned short round, and, shrieking with rage, made a spring against the tree, and, with his weight, bore it to the ground, but without hurting the man, who slipped away among the reeds. The ferocious animal followed him, foaming with rage, to the rising bank of the river, on the top of which the party, alarmed by his eries, were prepared, and instantly fired a volley at the pursuer. This made him return with increased fury to Lieut. Arlett, who, in his hurry to escape, stumbled and fell, the huge beast running over him, and severely bruising his ancle. No sooner had he passed than Mr. Arlett rose, and, limping with pain, once more attempted to retreat, but the animal returned

to the attack, flourished his trunk in the air, and struck the unfortunate officer senscless to the ground. When first seen by his comrades, his huge antagonist was standing over him, chafing and screaming with rage, pounding the earth with his feet, and ploughing it with his tusks. The lieutenant was stretched motionless on his back between the legs of the animal, which, had he been so disposed, might have crushed him to death in a moment by setting his leg on his body. He was covered with blood and dirt, and his eyes appeared to be starting from their sockets. It afterwards appeared that, previously to his last attack on Mr. Arlett, the elephant had filled his trunk with mud, which, having turned him on his back and forced open his mouth, he blew down his throat, injecting a considerable quantity into the stomach, which almost produced suffocation, and occasioned the inflated appearance of his face; and, for three days

afterwards, he occasionally vomited quantities of blue sand. On examination, it was found that though his body was severely bruised, yet no bones were broken, excepting the fibula of the left leg.

The elephant when tamed is gentle, obedient, tractable, patient of labour, and submits to every kind of drudgery. A word or a look is sufficient to stimulate him to the greatest exertions. His attachment to his keeper is remarkable; he caresses him with his trunk, and frequently will not obey any other person. He knows his voice, and can distinguish between the terms of command, of commendation, and of anger. He receives his orders with attention, and executes them cheerfully, but without hurry. All his motions are grave, majestic, regular, and cautious. He kneels down for the accommodation of those who would mount upon his back, and even assists them with his trunk. He suffers him-

self to be harnessed; appears to be proud of the finery of his trappings; and will easily perform the work of several horses, being able to carry from three to four thousand pounds weight. His conductor usually sits on the neck of the elephant, and is provided with a rod of iron, sharp at the end and hooked, called a hawkuss, with which he urges the animal forward by pricking his head, ears, or muzzle, though this is seldom neeessary, a word being usually suffieient.

To give an idea of the labour whieh the domesticated elephant performs in India, it may be suffieient to state that all the casks, saeks, and bales, transported from place to plaee, are earried by elephants; that they carry burdens on their baeks, their neeks, their tusks, and even in their mouths, fastened to the end of a rope, the other extremity of which they hold fast with their teeth; that, combining sagacity with strength, they never

break or injure any thing committed to their charge; that from the margins of waters they put packages into boats without wetting them, laying them gently down, arranging them where they ought to be placed, and trying with their trunks whether they are properly stowed; and it is said, that if a cask rolls, they will go of their own accord in quest of a stone to prop and render it firm. They are also employed in the carriage of persons and heavy burdens in travelling and on the march of an army; in field sports, especially in hunting the lion and tiger; and in processions and ceremonials.

For travelling and hunting, the elephant carries on his back a seat capable of holding two persons, while the mahout sits on the neck, and sometimes a servant on the crupper. The howdahs of the natives of Hindostan are square wooden frames, about eighteen inches deep, with bedding and pillows behind and on each side,

on which they sit cross-legged. Those used by Europeans are like the body of a gig, some having a hood, and a high splash-board in front, against which they lean when standing. The smaller elephants are sometimes ridden with a saddle and stirrups. Others have a large pad, on which six or eight persons sit, some astride and some sideways. From this pad the natives descend by means of a rope.

Among the moral qualities of animals, scarcely any are of a higher order, or a more incomprehensible character, than the docility of the baggage elephants of Asia, especially of Hindostan and Ceylon. At the mere bidding of its mahout, or driver, it kneels down to be laden; it lifts its master with its trunk into his seat, or prepares a step by which he may mount to it by bending the joint of the hind leg. If any loose cloths or cords happen to fall from its back, it will, with more than canine facility, pick them up to be re-packed,

or re-arranged. The author from whose Sketches of India this example of the sagacity of the elephant is cited, declares that he saw one of these huge quadrupeds, when loaded, break off a large branch of a tree, and fan and fly-flap himself "with all the indolence of a woman of fashion." Williamson, in his "Oriental Field Sports," relates an anecdote of an elephant at Tiparee, which put up quails from the low-tufted grass with dog-like accuracy, and stood stanch, while a British colonel, from the howdah on its back, killed both hares and black partridges. The same writer relates that an elephant, which used every day to pass over a small wooden bridge leading from his master's house to the town of Gyah, one day refused to go upon this bridge: and it was not without much difficulty and perseverance, and until the mahout had severely goaded it with his iron goad, that he could induce it to venture upon the fabric. The

elephant first tried its strength with its trunk; and at last, with apparent unwillingness, proceeded about half way over, when the bridge gave way, and the elephant and mahout were precipitated together into the ditch. The elephant was severely injured, and the mahout killed by the fall. This sort of elephant cannot be induced, under any circumstances, to enter a boat till it has first tried, in like manner, the soundness of its timbers.

It would require a volume to relate all the authentic anecdotes recorded of the astonishing sagacity and docility of the elephant in a state of domestication: the following may here suffice.

Captain Blakiston, in his 'Twelve Years Military Adventure,' chiefly in the East Indies, says:—"To the battering train were attached a few elephants, to assist the guns over any obstacles which could not be surmounted by the ordinary means. These sagacious ani-

mals always apply their strength in the most efficacious manner, either in pushing the guns with their foreheads, or lifting them up with their trunks, when the wheels have sunk into a deep rut or slough. They seem to possess an instinctive knowledge of the power of the lever, which they apply in pulling down trees that have been partly felled, or in breaking branches for their food. This latter process they effect by taking one end of the branch in their trunk, laying the other on the ground, and applying their foot to the intermediate part.

"Many instances of the manner in which they express the passions of hatred and love, of revenge and gratitude, are recorded. One example of their sagacity was related to me by an officer of artillery who witnessed the transaction. The battering train going to Seringapatam had to cross the sandy bed of a river, that resembled other rivers of the Peninsula, which have, during the dry season,

but a small stream of water running through them, though their beds are mostly of considerable breadth, very heavy for draught, and abounding in quicksands. It happened that an artilleryman, who was seated on the limber of one of the guns, by some accident fell off, in such a situation that in a second or two the hind wheel must have gone over him. The elephant, which was stationed behind the gun, perceiving the predicament in which the man was, instantly, without any warning from its keeper, lifted up the wheel with its trunk, and kept it suspended till the carriage had passed clear over him.

"The attachment or dislike of elephants to their keepers, according to the treatment they receive, is too well known to need illustration. I have myself seen the wife of a mahout (for the followers often take their families with them to camp) give a baby in charge to the elephant, while she went on some business,

and have been highly amused in observing the sagacity and care of the unwieldy nurse. The child which, like most children, did not like to lie still in one position, would, as soon as left to itself begin crawling about, in which exercise it would get among the legs of the animal, or entangled among the branches of trees on which he was feeding; when the elephant would, in the most tender manner, disengage his charge, either by lifting it out of the way with his trunk, or by removing the impediments to its free progress. If the child had crawled to such a distance as to verge upon the limits of his range—for the animal was chained by the leg to a peg driven into the ground—he would stretch out his trunk and lift it back as gently as possible to the spot whence it had started; and this without causing any alarm to the child, which appeared to be accustomed to the society and treatment of its Brobdignag guardian."

Captain Williamson has more fully described the nature of the services rendered by the elephants attached to our Indian army. "Many of our most arduous military operations," says he, "have been greatly indebted for their success to the sagacity, patience, and exertions of elephants. Exclusively of their utility in carrying baggage and stores, considerable aid is frequently supplied by the judgment they display, bordering very closely on reason. When cannon require to be extricated from sloughs, the elephant, placing his forehead to the muzzle, which, when limbered, is the rear of the piece, with an energy scarcely to be conceived, will urge it through a bog, from which hundreds of horses and oxen could not drag it: at other times, lapping his trunk round the cannon, he will lift while the cattle and men pull forward. The native princes attach an elephant to each cannon to help it forward in emergencies. For this purpose

the animal is furnished with a thick leather pad, covering the forehead, to prevent its being injured. It has sometimes happened that, in narrow roads or causeways, or on banks, the soil has given way under heavy cannon; when an elephant, being applied on the failing side, has not only prevented the piece from upsetting, but even aided it forward to a state of security."

But in no military operations are the perseverance and caution of the elephant more strikingly displayed than when he is required to convey guns up the ghauts or steep passes, which are such formidable obstructions in the mountainous districts of India. A highly interesting scene of this kind is described by Lieut. Shipp, in his Memoirs; but his account is too long for quotation.

D'Obsonville relates that, during one of the wars in India, an elephant, having received a flesh wound from a cannon-ball, after having

been twice or thrice taken to the hospital to have it dressed, continued to go alone. The surgeon did what he thought necessary, sometimes even applying the actual cautery; and, though the pain often extorted the most plaintive groans from his four-footed patient, he never betrayed any other expressions than those of gratitude for the attentions of the surgeon, who by momentary torment endeavoured, and with success, to effect his cure.

A young elephant, having received a severe wound in the head, was rendered so frantic and ungovernable by the pain, that it was found impossible to make the animal submit to have it dressed. Whenever any one approached, it ran furiously away. At length the man who had the care of it contrived by words and signs to make the mother comprehend what was wanted: on which the intelligent creature immediately seizcd her young one with her trunk, and held it firmly down, though

groaning with agony, while the surgeon dressed the wound; and she continued to perform this service every day, till the animal had completely recovered.

An elephant rendered furious by the wounds which he had received at the battle of Hambour, ran about the field making the most hideous cries. A soldier was unable, probably on account of his wounds, to get out of the animal's way like his comrades. The elephant approached, seemed afraid of trampling him under foot, took him up with his trunk, placed him gently on his side, and continucd his course.

During the wars in the East Indies about the middle of the last century, the Baron de Lauriston witnessed another striking instance of the regard of the elcphant for human life, at Lucknow, the capital of the soubah of Bengal, where an epidemic discase was making great ravages among the inhabitants. The principal road to the palace gate was covered

with the sick and dying, at the very moment when the Nabob had to pass along upon his elephant. It appeared impossible that the elephant could avoid treading upon and crushing many of the wretched people, unless the prince would stop while the way could be cleared: but he was in haste, and such tenderness would have been deemed derogatory in a personage of his importance. The animal, however, possessed more of the "milk of human kindness" than his master: without slackening his pace, and without having received any command for that purpose, he with his trunk removed some of the poor creatures, set others on their feet, and stepped over the rest with such care and address as not to hurt one of them.

In the Ayeen Akberry mention is made of elephants which were taught to discharge an arrow from a bow; to learn the modes that were understood only by those skilled in mu-

sic, and to move their limbs in time. We learn from the same work that on a signal given by his keeper, the elephant will hide eatables in the corner of his mouth, and when they are alone together he will take them out and give them to the man. This latter circumstance is confirmed by Mr. Forbes, who relates that during the campaign in which he accompanied the army of Ragonath, the elephants of that Mahratta chieftain became emaciated, and it was discovered that their keepers stole the balls with which the animals were fed for their own use; the rogues were punished, and inspectors appointed by the master of the elephants to see them fed. After some months the elephants began to lose flesh again, though the inspectors examined the quantity and quality of their food, and saw it given to them. On inquiry it was found that they had been taught to receive the balls and to retain them in their mouths till the inspectors with-

drew, when they took them out and returned them to the keepers.

In the East elephants have been employed by the native princes to execute summary vengance upon offenders against the law, and the victims of their cruelty; for they will trample a criminal to death, break his limbs with their trunk, or impale him on their tusks, according to the orders given to them. Bishop Heber relates, that shortly before his arrival in India, a mahout had been executed because he had ordered his beast by a sign, which was instantly obeyed, to kill a woman who had said something to offend him. Williamson testifies that elephants, after being some time in training, acquire a perfect intelligence regarding particular words of command in general use. They will answer to their respective names, and, uttering a shrill note, somewhat resembling the sound produced by blowing forcibly into a shell, resort to their mahouts when

ealled. They will also perform partieular acts upon the promise of speeial rewards, sueh as arraek or sweetmeats; and it is very dangerous to neglect completing the bargain when the work is finished.

The story of the elephant at Delhi, who half-drowned an unlueky tailor with water from his trunk, beeause the man had prieked him with his needle instead of giving him an apple, is too well known to need repeating. Lieutenant Shipp relates that, to try the memory of one of these animals, he gave him a large quantity of Cayenne pepper between some bread. The beast was mueh irritated at the deception: and, about six weeks afterwards, when the unsuspeeting joker went to fondle him, he submitted very quietly to his caresses, but finished with drenching his persecutor from head to foot with dirty water.—An elephant-driver, having had a coeoa-nut given to him, struck it, out of wantonness, against the ele-

phant's head, to break it. Next day, as the animal passed along the street, seeing some cocoa-nuts exposed for sale, he took up one of them with his trunk, and beat it about the head of the driver till he had killed him outright.—In the progress of the Vizier of Oude to meet Lord Cornwallis, a male baggage elephant, carrying a number of people on his back, was suddenly irritated by his mahout, who struck him violently with his hawkuss. The enraged beast instantly pulled him from his seat, held him up by his trunk in a way which rendered escape impossible, and then dashed him to pieees.—It is related that Pidcock, to whom the Exeter Change menagerie formerly belonged, had for some years been accustomed to treat himself and his elephant in the evening with a glass of spirits, for which the animal regularly looked. Pidcoek had invariably given the elephant the first glass out of the bottle, till one night he exelaimed, "You

have been served first long enough; it is my turn now." The proud beast was offended; refused the glass when denied the precedence, and would never more join his master in his revelries.

An elephant belonging a few years since to Mr. Cross, the last proprietor of the menagerie at Exeter Change, attained to the practice of a curious trick, which by repetition seemed to have acquired something of an instinctive character—if indeed instinct can be acquired; but which, the first time it occurred at least, seems attributable to nothing short of reason. It is a usual part of the performances of an elephant at a public exhibition to pick up a piece of coin, thrown within his reach for the purpose, with the finger-shaped appendage at the extremity of the trunk. On one occasion a sixpence was thrown down to the animal in question, which happened to roll a little out of his reach not far from the

wall. Being desired to pick it up, he stretched out his proboscis several times to reach it; and stood motionless for a few seconds, evidently considering how to act. He then extended his proboscis in a straight line as far as he could, a little distance above the coin, and blew with great force against the wall. The angle produced by the opposition of the wall made the current of air act under the coin, as he evidently intended that it should do; and it was curious to observe the sixpence travelling by these means nearer to the animal till it came within his reach, and he picked it up. This would have been considered a clever expedient, under similar circumstances, in man himself.

The inhabitants of London have of late years had several opportunities of witnessing the exhibition of elephants on the stage at some of our theatres, which has afforded them a more remarkable example of the saga-

city of this species of animal than the ordinary docility which it manifests at the command of the showman. It is stated that on the last of these occasions, when the female elephant belonging to Mr. Cross's menagerie, then about seven years old, called Lutchmé, bore a part in a melo-drama at the Coburg theatre, her theatrical education occupied only three weeks; and this rapid instruction was acquired under a system of unremitting kindness and judicious rewards. The remarkable instinct which the elephant possesses of trying the strength of any construction which it is necessary for him to cross, was particularly observed here; for the female in question, when first brought upon the stage, would not be led to any point before she had carefully ascertained the strength of the boards on which she trod, thrusting her trunk against every suspicious spot, and hesitatingly placing her feet in advance before she moved her body forward.

The author of 'The Menageries' has furnished some interesting particulars of the elephant belonging to the Duke of Devonshire, which died, it is said of pulmonary consumption, when about twenty-one years old, in 1829. It is related that this nobleman, having been asked by a lady going to India what she should send him from the East, laughingly answered, "Oh! nothing smaller than an elephant;" and he was surprised to find in due time a very handsome female of this species consigned to his care. This animal was kept at Chiswick under circumstances peculiarly favourable to her health and docility. Her dwelling was spacious, well ventilated, and arranged with a proper regard to her comfort, and she had often the range of a spacious paddock. At the call of her keeper, she would come out of her house, and take up a broom, ready to sweep the paths or the grass at his bidding. She would follow him round the

enclosure with a pail or a watering-pot, showing the same readiness to perform any kind of labour as the elephants in the East. Her reward was a carrot and some water; but before she satisfied her thirst by a copious draught, she would exhibit her ingenuity in emptying the contents of a soda-water bottle, which was tightly corked. Pressing the small bottle against the ground with her enormous foot, so as to hold it securely at an angle of about forty-five degrees, she gradually twisted out the cork with her trunk, although it was very little above the edge of the neck; then, without altering the position, she turned her trunk round the bottle, so that she might reverse it, and thus empty the water into the extremity of the proboscis. This she accomplished without spilling a drop; and she delivered the empty bottle to her keeper before she attempted to discharge the contents of the trunk into her mouth. She performed ano-

ther trick which required equal nicety and patience. The keeper, who was accustomed to ride on her neck, like the mahouts in India, had a large cloth, or housing, which he spread over her, when he thus bestrode her in somewhat of oriental state. On alighting, which she assisted him to do by kneeling, he desired her to take off the cloth. In obedience to this command, she put the muscles of the loins in action, so that the shrinking of the loose skin gave motion to the cloth, and it gradually wriggled to one side, till it fell by its own weight. The cloth was then of course in a heap; but the elephant, spreading it carefully upon the grass with her trunk, folded it up as a napkin is folded, till it was sufficiently compact for her purpose. She then poised it with her trunk for a few seconds, and with one jerk threw it over her head to the centre of her back, where it remained as steady as if adjusted by human hands. The affection of this

animal for her keeper was very great. In 1823 her last keeper succeeded another who had been with her for eight or ten years: when first placed under his charge, she was for some time intractable, evidently feeling the loss of her former friend; but she gradually became obedient and attached, and would cry after him whenever he was absent more than a few hours.

Elephants are said to be extremely susceptible of the power of music. Without insisting on the story of Suctonius, who relates that the Emperor Domitian had a troop of elephants trained to dance to music, and that one of them, who had been beaten for not being perfect in his lesson, was seen the following night in a meadow practising it by himself; we may observe that the assertion seems to be proved by some curious experiments made about thirty years ago at Paris. A band of music was placed in a gallery running round

the upper part of the stalls in which two elephants, a male and female, were kept. Some provisions, such as they were known to be fond of, were given to them to engage their attention. The moment the music struck up, they ceased eating, and looked round in surprise to discover whence the sounds proceeded. At sight of the gallery, the orchestra, and the assembled spectators, they manifested considerable alarm, as though they suspected some design against their safety. But the music soon dispelled their fears, and all other emotions seemed to be absorbed in their attention to it. Music of a bold and wild expression excited in them a turbulent agitation, expressive either of violent joy or rising fury. A soft air on the bassoon evidently soothed them to gentle and tender emotions: whereas a gay and lively one moved the female especially to demonstrations of highly sportive sensibility. Other variations in the music produced corre-

sponding changes in the emotions of the elephants.

The male elephant, however docile and obedient to his keeper, is subject, especially when kept in close confinement, to periodical fits of rage, which render him extremely dangerous. Thus in March 1826, a noble animal, known by the name of Chuni, which had belonged to the collection at Exeter Change ever since its arrival in this country from Bengal in 1809, which had been introduced on the stage of Covent Garden theatre, and which had grown to the unusual height of thirteen feet, manifested such symptoms of ungovernable fury, that Mr. Cross, the proprietor, found it necessary to destroy him; though he might have obtained 1000*l.* for him if he could have got him out of the building alive. He had begun to demolish his cage, snapping the bars of oak, eight or ten inches square, like matches. The work of death was

not very speedily aceomplished. A party of the Foot Guards being procured, fired with ball at the poor beast, who reeeived upwards of one hundred and fifty shots, and was at length dispatehed by one of the keepers, who with a large harpoon penetrated a vital part. In the greatest aeeess of his fury the animal exhibited a striking instance of doeility: for, while the bullets were striking him from every side, he obeyed the voiee of his keeper, who ordered him to kneel, in the belief that he might be the more easily shot in that position. The body was upwards of twelve feet in length from the forehead to the insertion of the tail, and above nineteen in circumferenee. The hide varied in thiekness, being generally from half an inch to an ineh; but aeross the baek it was three inehes thiek.

The domestic elephant is generally fed with riee, raw or boiled, and mixed with water. To keep him in full vigour he is said to re-

quire daily a hundred pounds weight of this food, besides fresh herbage to cool him, and he must be led to the water twice or thrice a day for the benefit of bathing. He takes up the water in his trunk, drinks part of it, and then, by elevating his trunk, causes the remainder to run over every part of his body. His daily consumption of water, as drink, has been calculated at forty-five gallons.

The Hindoos, prepossessed with a notion of the transmigration of souls, imagine that a body of such magnitude as the elephant's must be animated by the soul of a great man, or a king. White elephants in particular are regarded as the living manes of the Indian emperors. Each of these animals formerly had a palace, with a number of attendants, golden utensils filled with the choicest food, and magnificent garments, and they were exempted from all labour.

When the King of Ava walks abroad, four

white elephants adorned with precious stones and ornaments of gold precede him. When he gives audience these four elephants are presented to him, and do reverence by raising their trunks, opening their mouths, giving three distinct cries, and then kneeling. This done, they are led back to their stable, and fed out of large golden vessels; and twice a day they are washed with water from a vessel of silver. During the time of their being thus dressed they stand under a canopy supported by eight persons, to skreen them from the heat of the sun. In going to the vessels containing their food and water, they march with great majesty, preceded by three trumpeters.

In Hindostan the general belief both of the natives and European residents is, that these animals live three hundred years. Several, which are still in the service of the East India Company, were known to be very aged when they first entered it, eighty years ago.

THE OURAN OUTANG.

Of all animals yet known the ouran outang bears the closest resemblance to man. This resemblance is discovered more particularly in his hands, feet, and ears, and in the absence of a tail; but to a superficial observer many others of his features are so like the human, that some fanciful writers have been tempted to consider him as man in his rudest and most uncultivated state. A closer examination, however, will detect marks of distinction sufficiently strong to overthrow so humiliating an opinion, and to demonstrate that, even in anatomical structure, there is a wide difference between this animal and the most savage of the human species. The nose of the ouran outang is flatter, and his mouth

OURAN-OUTANG.

wider, than that of the negro ; his forehead is more oblique ; his eyes are much closer ; the distance between the nose and mouth is much greater than in man, and his chin has no elevation at the base. Neither has he any calf to his legs, and, though he sometimes walks on two, it is now certain that this attitude is not natural to him.

Ouran outang is a Malay expression, signifying "wild man," and should therefore be restricted to the animal which, according to our present information, is found exclusively in the great Asiatic islands, but which has been confounded by many writers with a species inhabiting Africa, that has also been called ouran outang, but is more correctly denominated pongo. It is to the latter that the wonderful accounts of the older travellers, such as Purchas and Battell, relate.

During the last century many curious particulars respecting the habits and man-

ners of the ouran outang were published by Tyson, Buffon, Vosmaer, and others; but we are indebted to the late Dr. Abel for the most circumstantial information on this subject. He enjoyed ample opportunity for observation during his voyage from Batavia to England, on his return from China, whither he had accompanied Lord Amherst, as naturalist to the embassy. From his account the following particulars are derived.

"The hair of the ouran outang is of a brownish red colour, and covers his back, arms, legs, and outside of his hands and feet. On the back it is in some places six inches long, and on his arms five. It is thinly scattered over the back of his hands and feet, and is very short. The face has no hair except on its sides, somewhat in the manner of whiskers, and a very thin beard. The palms of the hands and feet are quite naked.

"The prevailing colour of the animal's skin,

when naked, or seen through the hair, is a bluish grey. The eyelids and margin of the mouth are of a light copper colour. The inside of his hands and feet are of a deep copper colour. Two copper-coloured stripes pass from the armpits down each side of the body to the middle.

"The head viewed in front is pear-shaped, expanding from the chin upwards, the cranium being much the larger end. The eyes are close together, of an oval form and dark brown colour. The eyelids are fringed with lashes, and the lower ones are sacular and wrinkled. The nose is level with the face, except at the nostrils, which are but a little elevated; their openings are narrow and oblique. The mouth is very projecting, and of a roundish mammillary form. Its opening is large, but when closed is marked by little more than a narrow seam. The lips are very narrow, and scarcely perceptible when the

the mouth is shut. The chin projects less than the mouth: below it a pendulous membrane gives the appearance of a double chin, and swells out when the animal is angry or much pleased. Each of the jaws contains twelve teeth, namely, four incisive teeth, the two middle ones of the upper jaw being twice the width of the lateral; two canine, and six double teeth. The ears are small, closely resemble the human ear, and have their lower margins in the same line with the external angles of the eyes.

"The chest is wide, and the belly is very protuberant. The arms are long in proportion to the height of the animal, and the legs short compared with the arms. The hands are long, the fingers small and tapering; the thumb is very short, scarcely reaching the first joint of the fore-finger. All the fingers have very perfect nails of a blackish colour and oval form, and exactly terminating

with the extremities of the fingers. The feet are long, resemble hands in the palms, and in having fingers rather than toes, but they have heels resembling the human. The great toes are very short, set on at right angles to the feet, close to the heel, and entirely without nails.

"The ouran outang of Borneo is utterly incapable of walking in a perfectly erect posture. He betrays this in his whole exterior conformation, and never wilfully attempts to counteract its tendency. His head, leaning forward, and forming a considerable angle with the back, throws the centre of gravity so far beyond the perpendicular, that his arms like the fore-legs of other animals, are required to support the body. So difficult indeed is it for him to keep the upright position for a few seconds, under the direction of his keeper, that he is obliged, in the performance of his task, to raise his arms above his head, and

throw them behind him to keep his balance. His progressive motion on a flat surface is accomplished by placing his bent fists upon the ground, and drawing his body between his arms : moving in this manner, he strongly resembles a person decrepid in the legs, supported on stilts. In a state of nature, he probably seldom moves along the ground; his whole external configuration showing his fitness for climbing trees and clinging to their branches. The length and pliability of his fingers and toes enable him to grasp with facility and steadiness; and the force of his muscles empowers him to support his body for a great length of time by one hand or foot. He can thus pass from one fixed object to another, at the distance of his span from each other, and can obviously pass from one branch of a tree to another through a much greater interval. In sitting on a flat surface, this animal turns his legs under him. In sitting

on the branch of a tree or on a rope, he rests on his heels, his body leaning forward against his thighs. He uses his hands like others of the monkey tribe.

"The ouran outang, on his arrival at Batavia, was allowed to be entirely at liberty till within a day or two of being put on board the Cæsar to be conveyed to England. Whilst at large, he made no attempt to escape; but he became violent when put into a large railed bamboo cage for the purpose of being conveyed from the island. As soon as he felt himself in confinement, he took the rails of his cage into his hands, and shaking them violently endeavoured to break them to pieces; but finding that they did not yield generally, he tried them separately, and, having discovered one weaker than the rest, worked at it constantly till he had broken it, and made his escape. On board ship an attempt being made to secure him by a chain tied to a strong staple,

he instantly unfastened it, and ran off with the chain dragging behind; but, finding himself embarrassed by its length, he coiled it once or twice, and threw it over his shoulder. This feat he often repeated, and when he found that it would not remain on his shoulder, he took it into his mouth.

"After several abortive attempts to secure him more effectually, he was allowed to wander freely about the ship, and soon became familiar with the sailors, and surpassed them in agility. They often chased him about the rigging, and gave him frequent opportunities of displaying his adroitness in managing an escape. On first starting, he would endeavour to outstrip his pursuers by mere speed, but when much pressed, he would elude them by seizing a loose rope, and swinging out of their reach. At other times he would patiently wait in the shrouds or at the masthead till his pursuers almost touched him, and

then suddenly lower himself to the deck by any rope that was near him, or bound along the main-stay from one mast to the other, swinging by his hands, and moving them one over the other. The men would often shake the ropes to which he clung with so much violence as to make me fear his falling, but I soon found that the power of his muscles could not be easily evercome. When in a playful humour, he would often swing within arm's length of his pursuer, and, having struck him with his hands, throw himself from him.

"Whilst in Java, he lodged in a large tamarind-tree near my dwelling; and formed a bed by intertwining the small branches, and covering them with leaves. During the day, he would lie with his head projecting beyond his nest, watching every one who passed beneath; and when he saw any person with fruit, he would descend to obtain a share of it. He always retired for the night at sunset,

or sooner if he had been well fed, and rose with the sun, and visited those from whom he habitually received food.

"On board ship he commonly slept at the mast-head, after wrapping himself in a sail. In making his bed, he used the greatest pains to remove every thing out of his way that might render the surface on which he intended to lie uneven; and, having satisfied himself with this part of his arrangement, he spread out the sail, and, lying down upon it on his back, drew it over his body. Sometimes I pre-occupied his bed, and teased him by refusing to give it up. On these occasions he would endeavour to pull the sail from under me, or to force me from it, and would not rest till I had resigned it. If it was large enough for both he would quietly lie by my side. If all the sails happened to be set, he would hunt about for some other covering, and either steal one of the sailors' jackets or

shirts that happened to be drying, or empty a hammock of its blankets. Off the Cape of Good Hope he suffered much from a low temperature, especially early in the morning, when he would descend from the mast, shuddering with cold, and, running up to any one of his friends, climb into their arms, and clasping them closely, derive warmth from their persons, screaming violently at any attempts to remove him.

"His food in Java was chiefly fruit, especially mangostans, of which he was excessively fond. He also sucked eggs with voracity, and often employed himself in seeking them. On board ship his fare was of no definite kind. He ate readily of all kinds of meat, and especially raw meat: was very fond of bread, but always preferred fruits when he could obtain them.

His beverage in Java was water; on board ship it was as diversified as his food. He preferred coffee and tea, but would readily take

wine, and exemplified his attachment to spirits by stealing the eaptain's brandy-bottle: after his arrival in London he preferred beer and milk to anything else, but drank wine and other liquors.

"In his attempts to obtain food, he afforded us many opportunities of judging of his sagacity and disposition. He was always very impatient to seize it when held out to him, and became passionate when it was not soon given up; and he would chase a person all over the ship to obtain it. I seldom came on deek without sweetmeats or fruit in my poeket, and eould never escape his vigilant eye. Sometimes I endeavoured to evade him by ascending to the mast-head, but was always overtaken or intereepted in my progress. Sometimes I fastened an orange to the end of a rope, and lowered it to the deek from the mast-head; and, as soon as he attempted to seize it, drew it rapidly up. After being several

times foiled in endeavouring to obtain it by direct means, he altered his plan. Appearing to care little about it, he would remove to some distance, and ascend the rigging very leisurely for some time, and then by a sudden spring catch the rope which held it. If defeated again by my suddenly jerking the rope, he would at first seem quite in despair, relinquish his effort, and rush about the rigging, screaming violently; but he would always return, and, again seizing the rope, disregard the jerk, and allow it to run through his hand till within reach of the orange; but if again foiled, he would come to my side, and, taking me by the arm, confine it whilst he hauled the orange up.

"This animal neither practises the grimace and antics of other monkeys, nor possesses their perpetual proneness to mischief. Gravity approaching to melancholy, and mildness, were sometimes strongly expressed in his counte-

nance, and seem to be the characteristics of his disposition. When he first came amongst strangers, he would sit for hours with his hand upon his head, looking pensively at all around him: or when much incommoded by the examination, would hide himself beneath any covering that was at hand. His mildness was evinced by his forbearance under injuries, which was grievous before he was excited to revenge; but he always avoided those who often teased him. He soon became strongly attached to those who kindly used him. By their side he was fond of sitting; and, getting as close as possible to them, would take their hands between his lips, and fly to them for protection. From the boatswain of the Alceste, who shared his meals with him, and was his chief favourite, although he sometimes purloined the grog and the biscuit of his benefactor, he learned to eat with a spoon; and might be often seen sitting at his cabin

door enjoying his coffee, quite unembarrassed by those who observed him, and with a grotesque and sober air that seemed a burlesque on human nature.

"Next to the boatswain, I was perhaps his most intimate acquaintance. He would always follow me to the mast-head, whither I often went for the sake of reading apart from the noise of the ship; and, having satisfied himself that my pockets contained no eatables, he would lie down by my side, and, pulling a topsail entirely over him, peep from it occasionally to watch my movements.

"His favourite amusement in Java was in swinging from the branches of trees, in passing from one tree to another, and in climbing over the roofs of houses; on board, in hanging by his arms from the ropes, and in romping with the boys of the ship. He would entice them into play by striking them with his hand as they passed, and bounding from them, but

allowing them to overtake him and engage in a mock scuffle, in which he used his hands, feet, and mouth. If any conjecture could be formed from these frolics of his mode of attacking an adversary, it would appear to be his first object to throw him down, then to secure him with his hands and feet, and then wound him with his teeth.

"Of some small monkeys on board from Java he took little notice, whilst under the observation of the persons of the ship. Once indeed he openly attempted to throw a small cage, containing three of them, overboard; because, probably, he had seen them receive food of which he could obtain no part. But although he held so little intercourse with them when under inspection, I had reason to believe that he was less indifferent to their society when free from our observation; and was one day summoned to the top-gallant yard of the mizen-mast to overlook him play-

ing with a young male monkey. Lying on his back, partially covered with the sail, he for some time contemplated, with great gravity, the gambols of the monkey, which bounded over him; but at length he caught him by the tail, and tried to envelop him in his covering. The monkey seemed to dislike the confinement, and broke from him, but again renewed his gambols, and, although frequently caught, he always escaped. The intercourse however did not seem to be that of equals, for the ouran outang never condescended to romp with the monkey as he did with the boys of the ship. Yet the monkeys had evidently a great predilection for his company; for whenever they broke loose they took their way to his resting-place, and were often seen lurking about it, or creeping clandestinely towards him. There appeared to be no gradation in their intimacy, as they appeared as confidently familiar with him when first

observed as at the close of their acquaintance.

"But, although so gentle when not exceedingly irritated, the ouran outang could be excited to violent rage, which he expressed by opening his mouth, showing his teeth, and seizing and biting those who were near him. Sometimes indeed he seemed to be almost driven to despcration; and on two or three occasions committed an act which in a rational being would have been called the threatening of suicide. If repeatedly refused an orange when he attempted to take it, he would shriek violently and swing furiously about the ropes; then return and endeavour to obtain it: if again refused, he would roll some time like an angry child upon the deck, uttering the most piercing screams; and then, suddenly starting up, rush furiously over the side of the ship, and disappear. On first witnessing this act, we thought that he had thrown himself into the

sea; but, on search being made, found him concealed under the chains.

"I have seen him exhibit violent alarm on two occasions only, when he appeared to seek for safety in gaining as high an elevation as possible. On seeing eight large turtle brought on board, whilst the Cæsar was off the island of Ascension, he climbed with all possible speed to a higher part of the ship than he had ever before reached; and, looking down upon them, projected his long lips into the form of a hog's snout, uttering at the same time a sound which might be described as between the croaking of a frog and the grunting of a pig. After some time he ventured to descend, but with great caution, peeping continually at the turtle, but could not be induced to approach within many yards of them. He ran to the same height, and uttered the same sounds, on seeing some men bathing and splashing in the sea; and since his arrival in England he has

shown nearly the same degree of fear at the sight of a live tortoise.

"Such were the actions of this animal, as far as they fell under my notice, during our voyage from Java: and they seem to include most of those which have been related of the ouran outang by other observers. Since his arrival in England, he has not learnt to perform more than two feats which he did not practise on board ship, although his education has been by no means neglected. One of these is to walk upright, or rather on his feet, unsupported by his hands; the other, to kiss his keeper. I have before remarked with how much difficulty he accomplished the first, and may add, that a well trained dancing dog would far surpass him in the imitation of the human posture. I believe that all the figures given of the ouran outang in an unpropped erect posture are wholly unnatural. Some writer states that an ouran outang which he

deseribes gave 'real kisses;' and so words his statement, that the reader supposes them the natural aet of the animal. This is eertainly not the ease with the ouran outang whiich I have deseribed. He imitates the aet of kissing by projeeting his lips against the faee of his keeper, but gives them no impulse. He never attempted this action on board ship, but has been taught it by those who now have him in eharge."

This animal on his arrival in England in August 1817, was plaeed in the custody of Mr. Cross of Exeter Change, where he died on the 1st of April 1819. During this time, in whieh he had grown from twenty eight to thirty one inches in height, there was no need of personal confinement and little of restraint or coereion: to his keepers in partieular, and to sueh persons as he knew, he showed a deeided partiality. During his last illness and at his dcath, his piteous looks, which seemed to

implore relief of those about him, excited the feelings of all who witnessed them, and strongly reminded them of human sufferings under similar circumstances.

From a paper read by Dr. Abel at a meeting of the Asiatic Society at Calcutta, in January 1825, we cannot help inferring that there must be more than one species of the Asiatic ouran outang. We have seen that the individual already described, was no more than two feet seven inches in height, whilst another, shot on the coast of Sumatra, is represented as having measured not less than seven feet. The substance of this communication is as follows :—

An officer of the ship Mary Anne Sophia, being on shore at Ramboom, on the west coast of Sumatra, and having discovered an ouran outang in a tree, hastily assembled his men, and chased him to another tree in a cultivated plain, in which he took refuge. His walk was erect but waddling, and not quick; he

occasionally used his hands to quicken his pace, and he impelled himself forward with greater rapidity by means of a bough.

With this aid he travelled as fast as a fleet horse, so that had the adjacent country been covered with wood he must have escaped. At Ramboom, however, there are but few trees left standing among the cultivated fields. On reaching trees, he gained, by an exertion of surprising strength, and at one spring, a very lofty branch, from which he bounded with the ease of the smaller monkeys. Here he was first shot. After receiving five shots his exertions relaxed, owing to the loss of blood; and his pursuers, having expended their ammunition, were obliged to resort to other measures for his destruction. It is probable that the first or second ball had penetrated his lungs; for, immediately after the infliction of the wound, he slung himself by his feet from a branch with his head downward, and allowed

the blood to flow from his mouth. On receiving a wound, he always put his hand over the injured part, with a human expression of agony. The natives, who had never before seen such an animal, although living at the distance of only two days' journey from the vast forests of the island, were as much astonished at the sight as the crew of the ship, and assisted the latter to cut down the tree, in which the exhausted animal was hanging. The moment he perceived it to be falling, he exerted his remaining strength, and gained a second tree, and then a third, until he was finally brought to the ground. His assailants now gathered round and discharged arrows and other missiles at the animal. The first spear, made of a strong supple kind of wood, which would have resisted the strength of the strongest man, was broken by him "like a carrot;" and, but for the dying state to which he was by this time reduced, there would have

been reason to apprehend that he might have severed some of the heads of his pursuers with equal ease. At length he fell pierced with numberless wounds. It was supposed that he had travelled to some distance from the place where he was first surprised, as his legs up to the knees were covered with mud. His hands and feet bore a great resemblance to the human subject, excepting the usual shortness of the thumbs, which were situated also closer to the wrist joint. His body was well proportioned, his chest broad and expanded, his waist narrow, his legs rather short, and his arms very long, though both possessed such sinew and muscle as left no doubt of their strength. The head was well proportioned to the body; but the nose was prominent, and the mouth larger than in man. The eyes were large, and the chin, from ear to ear, fringed with a shaggy beard, curling luxuriantly on each side, and forming

rather an ornamental than frightful appendage to his face. The hair of his coat when first killed was smooth and glossy: and his teeth and whole appearance indicated that he was young and in full possession of his physical powers. According to the estimate of those who saw this extraordinary animal when alive, he was nearly eight feet high; but, from the careful examination to which Dr. Abel subjected the fragments of the body, and his measurement of the skin, he inferred that his height was full seven feet. This is the greatest ascertained height of any tail-less monkey on record, according to the observations which Dr. Abel has collected from various writers on man-like apes.

About three years ago a male and female ouran outang were exhibited at the Egyptian Hall, Piccadilly, where the former soon died. The female is described as very gentle in manners, but extremely disgusting in appear-

ance: her face bearing a singular resemblanee to that of an aged Malay woman, and her eyes having an exprcssion very like that of the human eye. They were rathcr large, bright, but not sparkling. She appeared to be excessively suseeptible of cold, and, when tempted from her blanket, whieh she arranged with singular eare, by some linseed seattered on the table, her motions were clumsy and slow; her lower extremities appearing to have been somewhat contracted and deformed from weakness. She wore a piece of striped Surat cotton round hcr body; and this garment, when she sate upright, materially contributed to the grotesque resemblance which has just been adverted to. Her height could scarcely have exceeded three feet.

END OF THE FIRST PART.

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